

# MANUFACTURERS'

## RECORD

A WEEKLY REVIEW OF THE IRON, STEEL, METAL & HARDWARE TRADES.

AND A MANUFACTURING AND TEXTILE PAPER, DEVOTED TO THE UPBUILDING OF SOUTHERN MANUFACTURES AND THE DEVELOPMENT OF THE MATERIAL RESOURCES OF THE SOUTH.

VOL. 8. NO. 1. WEEKLY.

BALTIMORE, AUGUST 15, 1885.

1000523 \$3.00 PER ANNUM.  
SINGLE COPIES, 10 CENTS.

—MANUFACTURERS OF—  
**CARD CLOTHING**  
or Every Description.

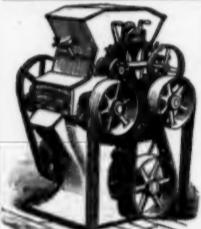
COTTON and WOOLEN MACHINERY. Office & Store, 137 Market St., Philadelphia.

**JAS. SMITH & CO.**

Works, 413 to 421 Race St., Cor. of Crown.

—DEALERS IN—  
**Manufacturers' Mill Supplies**  
of Every Description.

**NORDYKE & MARMON CO., INDIANAPOLIS, IND.**  
Flour Mill Machinery.



We make Rolls or Portable Mills for making New Process Corn Meal.  
Complete outfits on any system Rolls or Stones for Wheat Grinding.

Send for Circular of our 8500 Flour Mill Outfit.



**ELEVATORS**

Send for Illustrated Circulars.

**MORSE ELEVATOR WORKS.**  
**MORSE, WILLIAMS & CO.** Successors to CLEM & MORSE

Manufacturers and Builders of HYDRAULIC STEAM, BELT and Hand-Power, PASSENGER and FREIGHT, ELEVATORS; With most approved Safety Devices. Office: 411 CHERRY STREET, Dumb-Waiters, Automatic Hatch-Doors, &c. Works: FRANKFORD AVE., WILDEY & SHACKANAXON STS., PHILADELPHIA, PA. Branch Office, 108 Liberty Street, NEW YORK.



**"ECLIPSE"** **ROCK DRILLS, AIR COMPRESSORS,**

Machinery for Tunneling, Grading, Mining, Quarrying, etc.

TEN COMPLETE TUNNELING PLANTS FURNISHED FOR SOUTH PENNA. RAILROAD, PA.

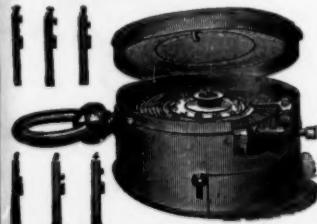
FOR CATALOGUES, ESTIMATES, &c., ADDRESS,

INGERSOLL ROCK DRILL CO., 10 Park Place, N. Y.

MORTON, REED & CO., Agents, Baltimore.



## Buerk's Watchman's Time Detector.



—IMPORTANT FOR ALL LARGE CORPORATIONS AND MANUFACTURING CONCERNs.—

Capable of controlling with the utmost accuracy the motion of a watchman or patrolman as the same reaches different stations of his beat. The instrument is complete in itself, portable, and as reliable as the best lever watch. It requires no fixture or wires communicating from room to room, as is the case with ordinary watch clocks.

The Instrument will in all Cases be Warranted Perfect and Satisfactory.

P. O. Box 2470.

J. E. BUERK, Proprietor, No. 230 Washington St., BOSTON, MASS.

J. A. J. SHULTZ, President.

D. C. ALVORD, Secretary.

**SHULTZ BELTING COMPANY, ST. LOUIS, Mo.**

Manufacturers of Shultz Patent Filled Leather Belting, Lace and Picker Leather.

OUR BELTING is made of Leather, tanned on the surfaces only; the interior (which is the fibre and strength of the hide) is not tanned, but Rawhide filled and softened by our patent process. Our belting is more pliable, and hugs the pulley better and transmits more power than any other belt. It does not pull out at the laces or rivets. It stretches less than any other belt. It works equally well for the largest Driving Belts or for the fastest running machinery and smallest pulleys. OUR LACE LEATHER is made of Rawhide, by our patent process, without any tanning and is stronger and will wear better than any other. WE ALSO MAKE THE BEST PICKER LEATHER AND BELT GREASE IN THE COUNTRY. Satisfaction guaranteed.

Southern Agents—FRED. N. OGDEN, New Orleans, La.

J. H. COFFIN & CO., Memphis, Tenn.

J. L. LINDSAY, Richmond, Va.



# GANDY'S PATENT MACHINE BELTING

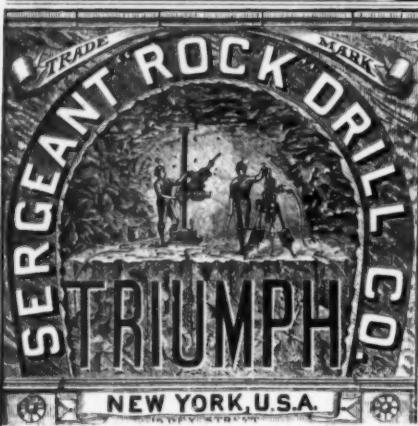
GOLD MEDAL AWARDED NEW ORLEANS, 1885, FOR BEST RUNNING BELTS.

Made *PERFECTLY* Straight and any Length without Joints.

For Main Driving it is the Best. Much Cheaper Than Leather.

MANUFACTURED BY

**THE GANDY BELTING CO., BALTIMORE, MD.**



## THE "TRIUMPH" ROCK DRILL

and NORWALK AIR COMPRESSOR

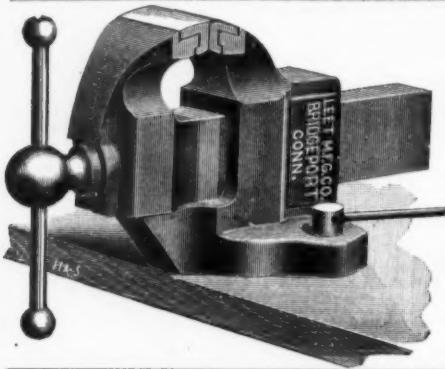
Are the Latest and Most Improved Machines that were ever designed for the work required of them. They are the Most Simple, Economical and Effective now known, and will satisfy all Purchasers.

Boilers, Steam Pumps, Hoisting Engines, Pipe and Fittings, Electric Blasting Apparatus, Powder, Caps and Fuse, Steam and Air Hose, Wire Rope,

—And General Mining and Contractors' Supplies.—

Complete Specifications for Rock Drilling and Mining Plants Furnished on Application.

**SERGEANT DRILL CO., 16 Dey Street, New York, U. S. A.**

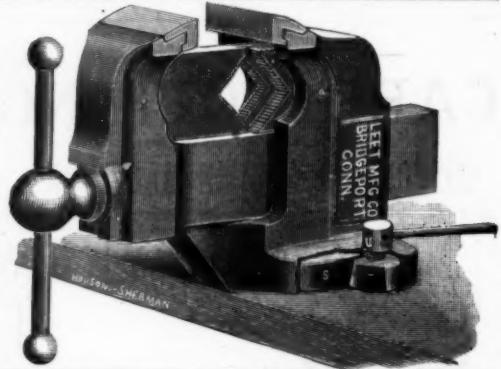


### THE LEET M'F'G CO.'S Patent Sliding Jaw Bench Vises.

WITH SWIVEL BOTTOM.

These Vises can be used either as a Sliding Jaw or a common Screw Vise by simply turning in or out the small screw in backside of the head or base. It will hold work with a more powerful grip than any other Vise. The screw will never work loose when either chipping or filing. The workmanship is perfect; all the working parts are made of steel and interchangeable. Sold by all Hardware Dealers. Send for Descriptive Circular and Price List to

**C. D. LEET, Bridgeport, Conn.**



## Wiswell Ore Pulverizer and Amalgamator Combined.

The cost of this Mill is much less than any other machine of sufficient capacity to do the same amount of work.

It requires less power to run it, (10-horse being sufficient.)

The wear and tear of the Mill is much less than any other Quartz Mill doing the same amount of work, and the quality of the work done by it is greatly superior to work done in any other Quartz Mill now in use.

It crushes to a uniform fineness and makes no slimes, so that no sizing is required for concentration.

The Mill is equally well adapted to crushing and pulverizing of all classes of ores, either for amalgamation or concentration, and will pulverize and amalgamate from one-half to one ton per hour, according to character of ore and fineness of screens.

With ordinary care there is no loss of mercury by flouring, and consequent loss of gold, as in most other Mills where mercury is used in the Mill.

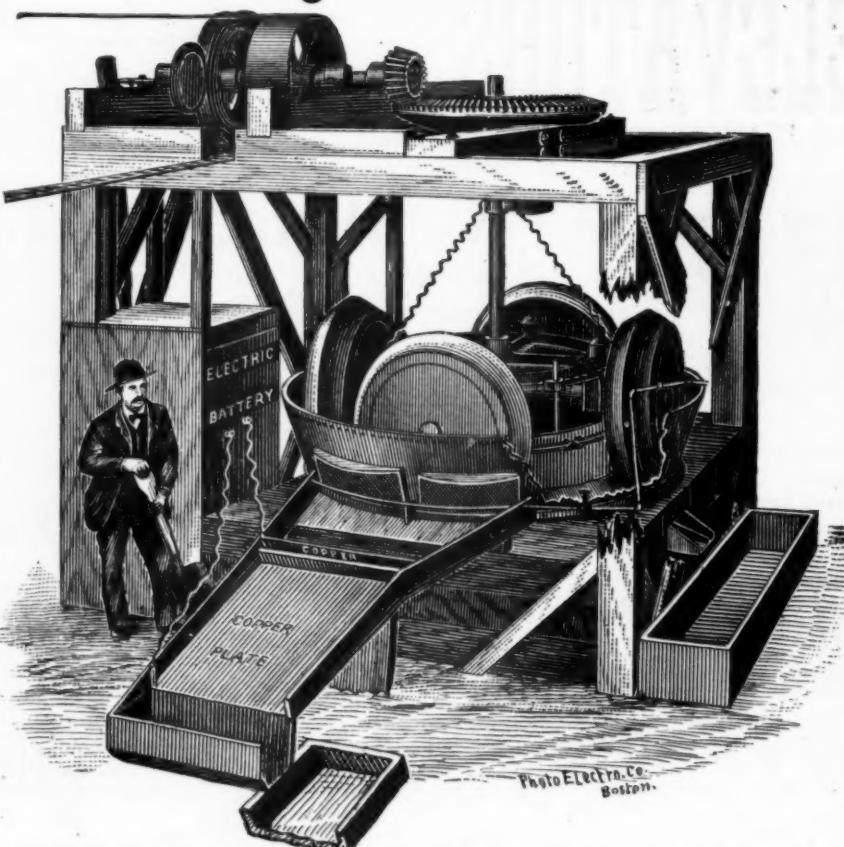
Amalgamation is carried on in the same operation with the crushing. The mercury is placed in the Mill in quantities varying from 10 to 40 pounds.

The application of electricity to the Mill for the purpose of cleaning and keeping the mercury alive has been to a very large extent superseded by the invention and introduction of the Mercury Trap in the Mill for the purpose of drawing off the mercury when charged with gold or on the slightest indication of flouring. By this ingenious device the mercury can be changed as often as desired without loss of time in either crushing or amalgamating. By opening this Trap the amalgam is discharged from the Mill in three minutes, and clean mercury introduced in its place.

To those familiar with running a Gold Mill this latter advantage will be greatly appreciated; in fact, it gives the mill-man full control of his work.

This Mill has been on exhibition at the foundry of Messrs. Bisbee & Endicott, at Chelsea, Mass., for the past 18 months, a good part of the time in active operation, and we have treated the most rebellious ores from many mining districts with most satisfactory results to the parties concerned.

The past year we have sold many Mills, which may be found in Michigan, North Carolina, Dakota, Montana, Idaho, Colorado, California, Mexico, Nova Scotia, etc. All those in operation are giving the most perfect satisfaction, as testimony will prove, and we will take pleasure in referring to any one of these on application.



We Furnish a Complete Mill for **\$2,500**, Delivered on Board Cars.

**WISWELL ELECTRIC MINING MACHINERY COMP'Y,**

A. A. REEVE, Treasurer.

4 POST-OFFICE SQUARE, BOSTON.

# SACO WATER-POWER MACHINE SHOP,

— BIDDEFORD, MAINE, —

Manufacturers of

## COTTON \* MACHINERY

OF THE MOST IMPROVED PATTERNS.

### CARDS,

Cylinders, 36x36 and 36x30, with 20 tops and Self-Strippers and Railway Troughs. Union Cards, with workers, strippers and tops.

### FINISHER RAILWAY HEADS.

DRAWING FRAMES, ANY LENGTH, WITH 3, 4 AND 5 LINES OF STEEL ROLLERS.  
English Slubbers and Fly Frames, With Long or Short Bolsters.

### BOBBINS—12x6, 11x5½, 10x5, 9x4½, 8x4, 7x3½, 6x3, and 5x2½.

RING SPINNING FRAMES, 2, 1½, 1¾ AND 1⅓ INCH RINGS.

### — TWISTERS.—

SELF-ACTING MULES, Parr, Sharp and Roberts' and Higgins' Pattern,  
1½, 1 5-16, and 1 1-16-inch Gauge.

S. W. RICHARDSON, Treasurer,

No. 1 Simmons Building, Boston.

JAS. H. McMULLAN, Agent,

Biddeford, Maine.

ESTABLISHED

POOLE & HUNT,

— 1851 —

## Founders and Machinists.

POOLE & HUNT'S

## LEFFEL \* TURBINE \* WATER \* WHEEL,

Prices as Low as any

other First-Class Wheel.



Machine Moulded

## MILL GEARING.

Our plant for the production of MACHINE-MOULDED MILL GEARING is unequalled in the country, and we are prepared to fill orders with dispatch and at GREAT SAVING IN COST OF PATTERNS.

Shafting, Pulleys,  
HANGERS, PEDESTALS.

SHAFTING, PULLEYS, HANGERS and COUPLINGS, of latest and most approved designs.

N. B.—Shipping facilities the best in all directions.

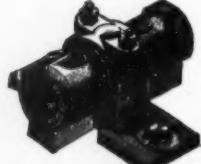
Send for Pamphlet. Send for Price-List.

List of our Gear-  
ing Mailed on  
Application.

POOLE & HUNT, BALTIMORE, MD.



ADJUSTABLE SELF-OILING HANGER.

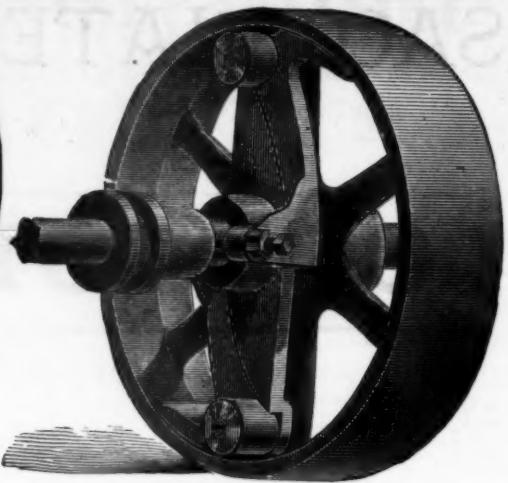
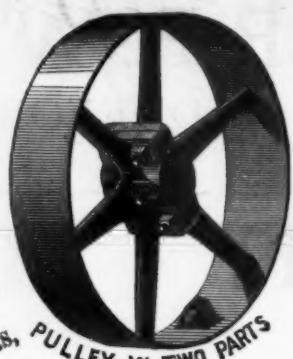
Ball and Socket  
Self-Oiling Pillow Block.DOUBLE-BRACED ADJUSTABLE  
SELF OILING HANGER.

FAIRMOUNT MACHINE WORKS.  
once, 2106 Wood St., Philadelphia.  
THOMAS WOOD,  
Manufacture as Specialties

Power Looms, Patent Bobbins or Quill  
Winding Machines, Plain and Presser  
Beaming Machines, Plain and Presser  
or Spooling Machines, Plain and Reeling,  
Warp Splicing Machines, Plain and Cal-  
endering Machines, Splicing, Sliding,  
Scouring, Fulling and Cal-  
endering.

WARPING MILLS,  
16, 18 and 20 yards Circumference,  
WITH IMPROVED BECKS.

SHAFTING,  
ADJUSTABLE WITH Patent  
8, 10, 12, 15, 18, 20, 24 and 30 in. drop.  
Also WALL, POST AND GIRDER HANGERS.  
PATENT FRICTION PULLEY.  
Pulleys in two parts, any size required.  
PATENT HOISTING MACHINES.  
Oil Presses for Lard, Fish and Parasite.



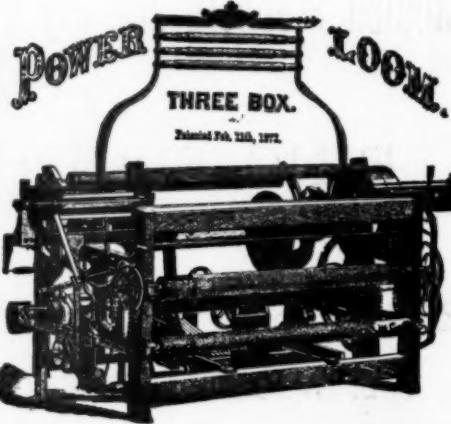
PATENT FRICTION PULLEY.

Simple, reliable and very durable.  
Suitable for any kind of driving, they  
serve equally well as driver or driven.

Special Driving,  
such as Angular, Muley, and Gallows Driving,  
furnished for any position  
where possible to transmit power by belts.  
PULLEYS from 4 inches to 10 feet in diameter.

Why use old style Bearings, that require oiling  
every day, when you can get Bearings at less cost  
that only require oiling once in Six Months, and  
thus save oil and labor enough to pay for the bearings  
in use. Test the matter for yourselves; a  
trial always secures the trade.

ADDRESS.  
**THOS. WOOD,**  
2106 Wood St.,  
PHILADELPHIA, PENNA., U. S. A.

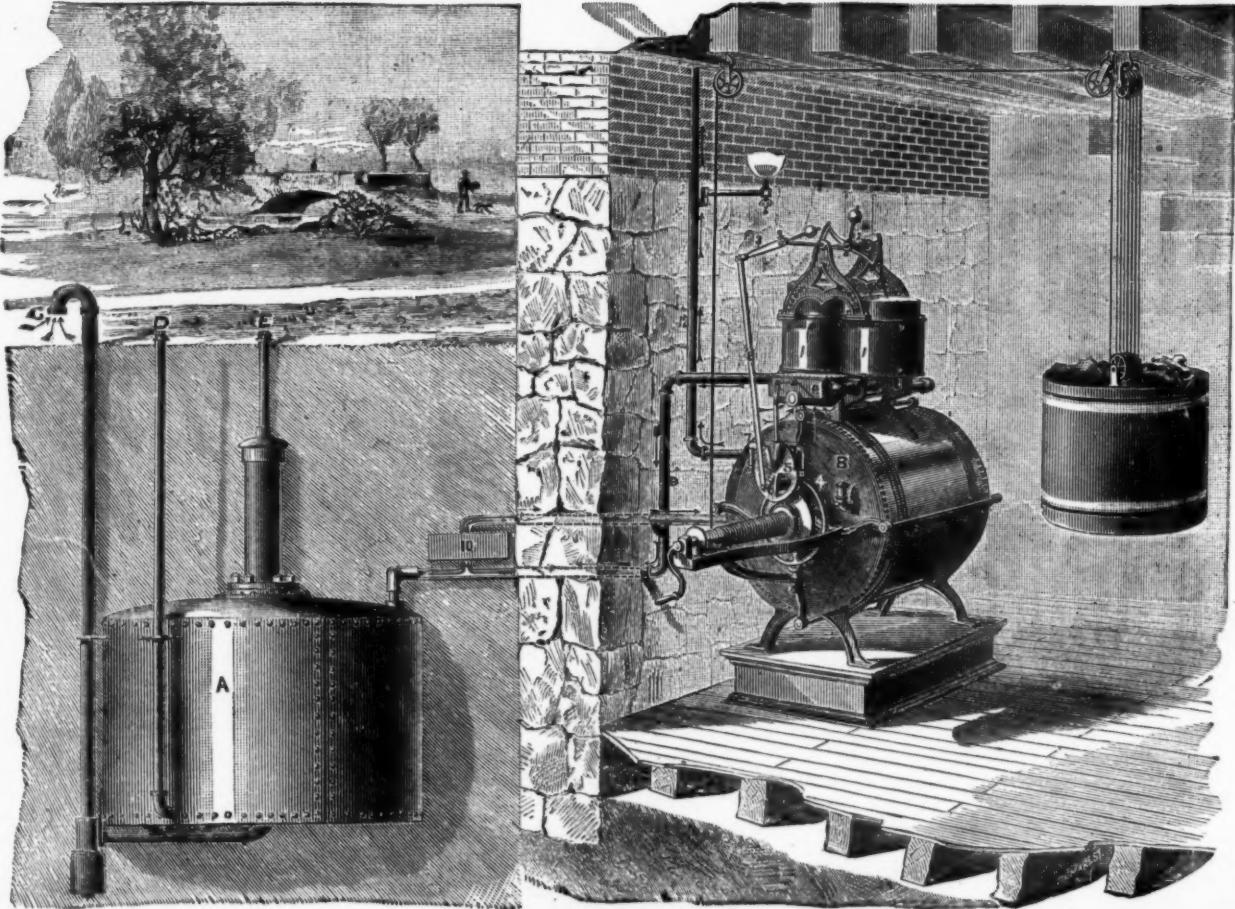


# TIRRILL'S EQUALIZING GAS MACHINE!

Only Gas Machine  
that makes  
UNIFORM  
GAS.  
No Fire,  
No Smoke,  
No Smell.

Plain Bat Wing  
Burners only  
Required.

GAS ALWAYS  
Perfect.



Less than \$1.  
Per Thousand  
Feet.

Machines of any  
CAPACITY.

Read Circulars  
Before Buying.

Simple,  
Perfect,  
and Reliable.

Absolutely  
Safe.

Approved by  
Underwriters.

Read who en-  
dorses Them.

FOR CIRCULAR AND FULL INFORMATION, ADDRESS:

**TIRRILL'S GAS MACHINE CO., 39 Dey St., New York, N. Y.**

**HOWARD & BULLOUGH, & RILEY,**

BUILDERS AND IMPORTERS OF

**COTTON MACHINERY.**

ALSO, IMPORTERS OF

Wool, Worsted and Flax Machinery and English Card Clothing. Hardened and Tempered Steel Wire a Specialty.  
MILL ENGINEERS.

GREAT SUCCESS OF OUR

PATENT ELECTRIC STOP-MOTION,

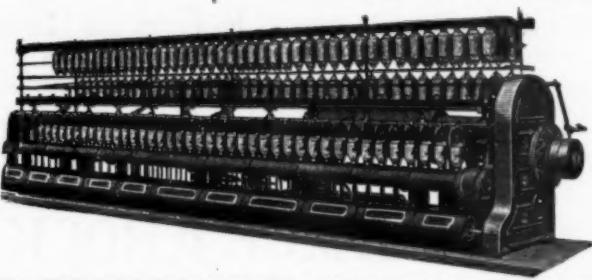
ALREADY APPLIED TO OVER

9,000 DELIVERY HEADS OF DRAWING, AND

62,000 INTERMEDIATE ROVING SPINDLES.

The quality of Sliver produced by our Frames surpasses all others, and Waste, Single and Roller Laps are prevented, and production increased.

Correspondence Solicited. Send for Circulars.



No. 19 PEARL STREET, BOSTON, MASS.

SPECIALTIES:

EXHAUST OPENERS, LAPERS, (LORD'S EVENERS) IMPROVED ROLLER CARDS, PRODUCE MORE AND MAKE LESS WASTE THAN ANY OTHER.

7,000 SELF-STOPPING WARPERS.

Already working with latest improvements.

800 CYLINDER SLASHERS

Now at work in America alone

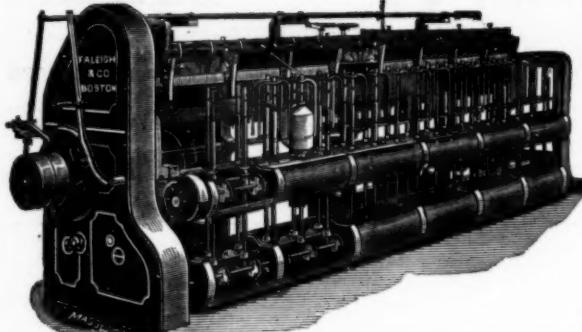
Patent and plain Spindle, Spinning and Twisting Frames, Spoolers, Reels and Circular Warpers, Cloth Folders, Size Kettles, plain and Fancy Looms, Spindles, Flyers and Fluted Rolls.

**SLUBBING AND ROVING FRAMES WITH LATEST AND BEST IMPROVEMENTS.**

**F. A. LEIGH & CO.**

**Importers of Mill Machinery,**

—No. 40 WATER STREET, BOSTON, MASS.—



Openers, \* Lappers, \* Cards, \* Drawing,  
*Slubbing and Roving Frames,*

CARD CLOTHING, ETC.

Correspondence Solicited. Send for Circulars.

**Queen City Printing Ink Co.**

CINCINNATI, OHIO.

**THE INK** WITH WHICH THIS PAPER IS PRINTED.  
IS MADE BY THE  
QUEEN CITY PRINTING INK CO.  
CINCINNATI, O.

MANUFACTURERS OF ALL DESCRIPTIONS OF

**INKS!**

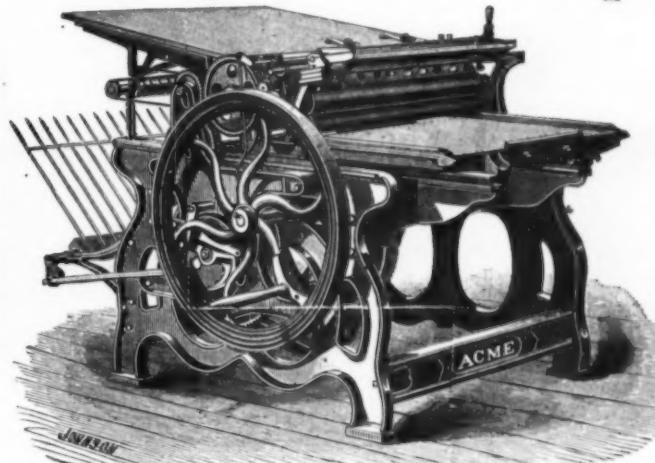
**\*Varnishes and Sizes\***

FOR PRINTERS' USE.

New York Office, . . . 194 William Street.

Philadelphia Office, . . . 434 Walnut Street.

**The ACME Improved Two-Revolution Press.**



FOR NEWSPAPER OR JOB WORK.

FOR STEAM OR HAND POWER.

These Presses combine, in a thoroughly perfected machine, many features whose value will be readily appreciated, including several which have never been practically developed by any Cylinder Press. Among these features are: Compact and firm in all its adjustments; the most perfect two roller ink distribution; speed combined with perfect registration; slow movement of the bed during the impression, and quick return; suspending the impression; suspends the grippers, guides and ink; ink can be distributed without inking form; unlimited rolling of the form; composition rollers interchangeable; feeder can suspend action of the ink fountain; impression adjustable while the Press is in operation; whole form accessible for correction on the Press; quiet operation without jar; great saving in wear of type; convenient height of bed.

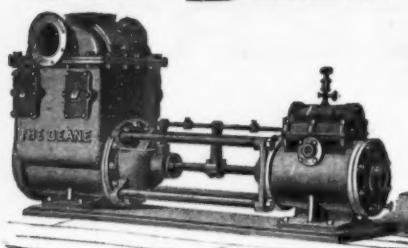
The present hand-power Acme Presses fully equal, in capacity for fine work, the first-class two-roller Presses of other kinds, and they run much easier, and are also capable of higher speed by steam than any other Cylinder Press manufactured for country offices or for hand operation. The convenience of changing from newspaper to poster and job work is unequalled.

PRICES, - - \$900 to \$2,500.

Circulars, with sizes and prices, will be sent on application.

**C. C. CHILD, MANUFACTURER,**  
64 Federal Street, Boston, Mass.

# THE DEANE STEAM PUMP CO., HOLYOKE, MASS.



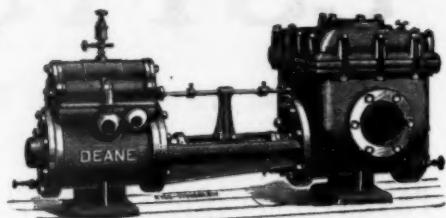
MANUFACTURE

Every variety of Pumping Machinery

VACUUM PUMPS FOR SUGAR WORK, ETC.

IRRIGATION PUMPS ARE SPECIALTIES.

Water Works Pumping Engines for Cities and Towns.



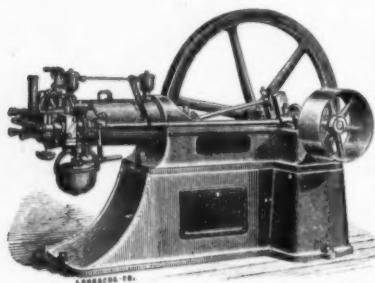
SEND FOR NEW ILLUSTRATED CATALOGUE No. 22.

MANUFACTURER OF THE INGREDIENTS  
OF THE NEW PATENT BLASTING POWDER:IT CONTAINS NEITHER GLYCERINE NOR  
NITRO-GLYCERINE IN ANY FORM.

## RENDROCK POWDER COMP'Y, RACKAROCK.

It Does Not Freeze. Can be shipped by express, railway or steamship lines. Neither of the two ingredients are explosive until combined, and when combined are safer than Dynamite. This explosive approximates Nitro-Glycerine in strength. Send for circulars to

RENDROCK POWDER CO., 23 Park Place, New York.



Over 14,000 in Use.

## Otto Gas Engine

20 to 70 per cent. less Gas  
consumption than  
ANY other ENGINE.

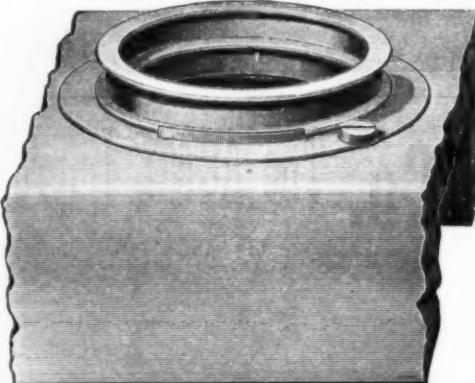
Working Without Boiler, Steam, Coal, Ashes or Attendance.

Started instantly by a Match, it gives full power immediately. When stopped, all expense ceases.

No explosions, no fires nor cinders, no gauges, no pumps, no engineer or other attendant while running. Recommended by insurance companies. UNSURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running small shops, &amp;c. SIZES: 1 to 25-horse power.

Branch Office, 214 Randolph St., Chicago. SCHLEICHER, SCHUMM &amp; CO., N. E. cor. 33d and Walnut Sts., Philadelphia.

## DOUBLE ADJUSTABLE Spinning Rings.

GEORGE DRAPER & SONS,  
HOPEDALE, MASS.TELEGRAPH ADDRESS AND RAILROAD STATION,  
MILFORD, MASS.

	Number of Rings sold.	Number of Rings sold for repairs.
1869	6,025	...
1870	20,258	...
1871	38,618	...
1872	94,264	12
1873	117,301	...
1874	168,392	500
1875	223,994	963
1876	185,319	947
1877	270,811	946
1878	215,214	3,309
1879	336,018	8,007
1880	567,860	11,264
1881	659,730	8,974
1882	636,715	25,515
1883	416,500	21,589
1884	319,869	25,108
1885, 5 mos.	112,522	12,118
Total number sold in		
16 years	4,390,260	116,349
Total number in use	4,273,911	

The great durability of our Rings is shown by the fact that we have more rings in use over twelve years old than all we have sold for repairs.

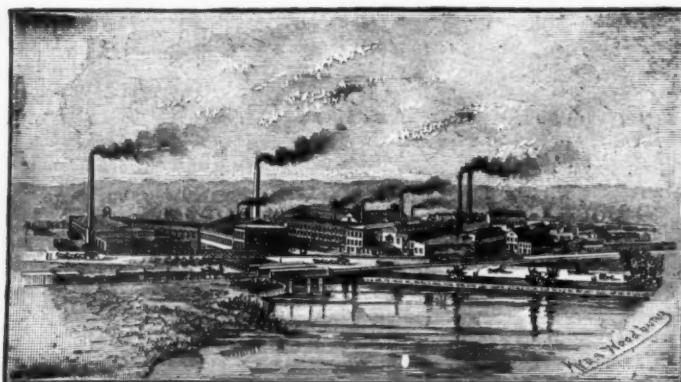
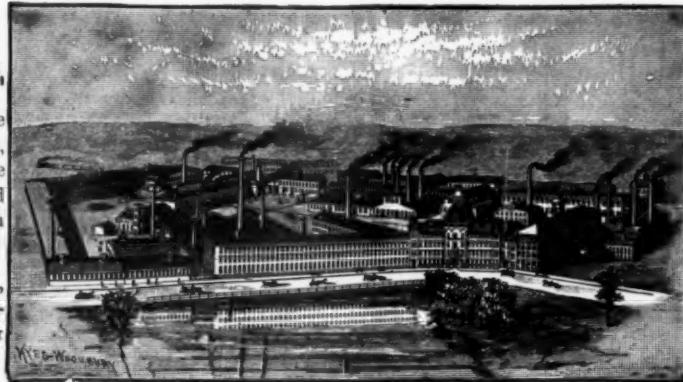
This statement shows unmistakably that a mill once supplied with our rings need think but little of the cost of repairs. As the number sold for repairs is an average of about twenty per cent. of the number sold the tenth year before, the average life of our rings will be at least twelve years.

Do not make the mistake of ordering new frames without specifying Double and Adjustable Rings. While they cost more to begin with, they are much the cheapest in the end, on account of their uniform excellent quality and unparalleled durability.

As an encouragement to use none but the best of Rings, we have decided to reduce the price on and after the first day of January, 1885, of those 1½ inches or less in diameter, without holders and screws, to be used only to take the place of our rings worn out, to 12 cents each.

## Washburn & Moen Manufacturing Co., Worcester, Mass.

Wire Drawers, and Manufacturers of Iron and Steel Wire of Every Description.

Iron and Steel Telegraph  
and Telephone Wire.Patent Steel Wire Bale  
Ties, Pump Chains, Chain  
Wire, Steel Wire for  
Springs, Needles and  
Drills, Watch Main  
Springs.Send for Price-Lists,  
Circulars and Descrip-  
tive Pamphlets on Our  
Specialties.

NEW YORK WAREHOUSE:

21 Cliff Street,

New York City.

GLIDDEN PATENT

STEEL BARB WIRE.



The Best Fence Material in Use.

For Sale by Special Agents and Hardware

Proof against Fire, Wind and Flood.

Dealers in all Parts of the United States.

CHICAGO WAREHOUSE:

107 Lake Street,

Chicago, Illinois.

# BALTIMORE Manufacturers' Record.

Published Every Saturday by

BIGSBY & EDMONDS.

J. W. Bigsby. Wm. H. Edmonds.

R. H. EDMONDS, EDITOR.

OFFICE,

71 and 73 Exchange Place, Cor. Commerce St.,

BALTIMORE.

NEW YORK BRANCH OFFICE:

Room 6, No. 118 Fulton Street,

J. W. BIGSBY, Resident Partner.

SOUTHERN OFFICE, ATLANTA, GA.

J. W. AVERY, Manager.

JAMES L. ELY,

Advertising Agent for New York and Vicinity.

Room 14, 29 Park Row, New York.

Price of Subscription Per Year in Advance:

(POSTAGE INCLUDED.)

TO UNITED STATES AND CANADA, \$3.00  
OTHER COUNTRIES, - - - 4.50

ADVERTISING RATES:

One square (14 lines Agate, 1 inch) 1 time.....	\$ 1.50
" " " " 4 ".....	5.00
" " " " 3 mos.....	10.00
" " " " 6 ".....	18.00
" " " " 1 year.....	32.00

For advertising on outside pages add 50 per cent. to the above rates.

Reading Notices 50 cents per line each insertion.

BALTIMORE, AUGUST 15, 1885.

## A Successful Furnace.

The Low Moor furnace of Virginia, has an excellent reputation, both for the quantity and quality of its output. Some months ago we gave a statement of the materials used and the production of iron at this furnace during the first three months of the year. The Virginias in its last issue gives the production of iron at Low Moor for the first six months of the year as follows:

THE FURNACE OPERATIONS OF SIX MONTHS:	
Limonite iron ore used.....	51,941
Coke, from New River coal, used.....	27,769
Limestone, No. VI, used.....	25,639
Raw materials used.....	105,349
No. 1 pig iron made.....	9,120
No. 2 pig iron made.....	8,710
"Mill" pig iron made.....	3,557
"Silvery" pig iron made.....	1,484
"Mottled" pig iron made.....	373
Tons of pig iron made.....	23,184

The time lost by stoppages was only about 2½ days, a remarkably small loss for six months. The average daily yield for the 185 days was 125.3 tons of pig iron per day. The best day's run was 143 tons.

The average consumption of raw materials per ton of pig made was:

Tons.	
Iron ore, about.....	2.19
Coke, about.....	1.19
Limstone, about.....	1.11

These results compare well in every particular with the best blast furnace returns of this country, as published by our contemporaries; few of them show as low a consumption of raw materials to the ton of product, especially in coke, and but few as small a consumption of common brown hematite iron ore. But few furnaces show such large percentages of the higher grades of pig iron in their total product as does Low Moor.

MESSRS. B. F. JOHNSON & CO., have become business managers of the Industrial South, Richmond, Va., and this most excellent paper will be more vigorously pushed than ever.

## Brilliant Crop Prospects in the South.

Only once in the last 10 years, and that in 1880, have the August reports as to the condition of the cotton crop been better than at present. The acreage in that year was less than the acreage of this year by over 2,000,000 acres, possibly 2,500,000 acres. While the present condition of the cotton crop has, as already said, been surpassed once only in the last 10 years, we doubt if there was ever before a season in which the average condition of the cotton, corn, rice, tobacco, sugar and fruit crops was as high as at present. It is, indeed, a marvellous tale of wonderful crops that comes up from the whole South. From one end of the South to the other there are songs of praise for the magnificent crops now almost absolutely assured. We do not remember to have ever seen the Southern press and the Southern people so jubilant—a milder word will hardly express it—over the improved outlook of their whole section and every business interest than at present. Not only will the cotton crop in all probability greatly exceed the largest crop ever before produced, but the corn crop will also be the biggest ever raised, and will probably be very nearly equal to the entire consumptive wants of the South in that direction; while tobacco also follows in the same good line of the biggest crop on record, with fruits doing the same, and sugar and rice not falling far behind.

Moreover, it is the universal testimony of all authorities that these crops have been produced at a lower cost than ever before.

The United States Agricultural Department, under date of August 10, says the returns to the department "make a slight improvement of the condition of cotton on the 1st of August, the general average being 96½, a point only once exceeded in the August returns of 10 years—in 1880. The average in August, 1882, was 94, and only South Carolina and Alabama exceeded their present figures." The crop of 1882, which in August stood at 94, was 6,949,756 bales on 16,276,000 acres. This year the acreage is 2,000,000 acres or more greater than in 1882, and the condition of the crop at present is better than at the corresponding time of that year. The National Cotton Exchange, in its August report, makes the condition of the crop 97—a fraction higher than the Agricultural Department; while the Agricultural Departments of the various States make equally as satisfactory returns, South Carolina's commissioner, for instance, saying:

"The favorable condition of the cotton crop during June has been fully maintained in July, and the reports indicate one of the finest crops grown in the State for many years. \* \* \* The average condition for the State is reported at 99. This condition is higher than any reported by the National Department of Agriculture since 1870, when it was 101. The corn crop is unusually

good, and it will doubtless be the largest yield ever obtained in the State. The condition is 102, against 87 for the same time last year."

Of the corn crop in West Tennessee, North Mississippi, North Arkansas and North Alabama, Hill, Fontaine & Co., say:

"As a rule the yield of this cereal will be more than ample to supply all home wants, and in many sections will be raised the finest crop ever known in the history of the past ten years."

In Louisiana the report of the Commissioner of Agriculture shows the condition of the crops, almost without a single exception, to be the best ever produced in that State:

	Acreage.	Condition.
Cotton.....	115,29	111,98
Corn.....	107,53	115,98
Rice.....	126,55	110,00
Sugar.....	89,89	104,86
Sorghum.....	100,86	104,65
Peas.....	102,88	107,20
Oranges.....	103,33	101,83
Onions.....	100,95	101,41
Sweet potatoes.....	107,39	107,06
Irish potatoes.....	101,81	107,78
Oats.....	107,78	99,00
Hay.....	107,78	99,00

Commenting on these facts, the Times-Democrat says:

"The only decreased acreage is in sugar, attributable to the very demoralized condition of the sugar market last year, which made this crop unprofitable. This loss in acreage, however, does not indicate any land withdrawn from cultivation, as the land taken from sugar was planted in rice, corn or cotton."

As for the condition of the crops, it is far above the average in every instance but one, and is improving every day. The crops are better in August than they were in July, and better in July than in June; and they are growing now even better and promising a larger yield.

With this combined increase in acreage and condition of cotton it promises, even should there be no further improvement, an increased production over the average of 29 per cent., or more than 100,000 bales; of corn, an increase of 24.6 per cent.; of rice, 38.6 per cent. The only decreased yield probable is in sugar, 6 per cent. The greatest improvement, it will be noticed, is in the more important crops. Corn, rice and cotton include about nine-tenths of all the acreage under cultivation in the State, so that it can safely be said that the agricultural productions of Louisiana promise to be between one-fourth and one-third greater than the average, the best showing made since the war, and probably the best ever made. It should moreover be remembered that these crops have been made this year at far less cost than usual, all plantation supplies ranging low and labor generally being cheaper than heretofore. This should leave a larger surplus in the hands of the farmers.

The planters and farmers, and the whole people of the State, are to be congratulated on this happy showing, which promises to lift Louisiana out of any present feeling of depression and restore her to the utmost prosperity."

It would be an easy matter to fill up every page of the MANUFACTURERS' RECORD with just such glowing crop reports as the foregoing. Enough, however, has been given to show what a wonderfully bright prospect the South now has for prosperous times.

THE increasing business of the Woodstock Iron Co. and the Anniston Land and Improvement Co., of Anniston, Ala., have necessitated some changes, and Mr. Samuel Noble, the secretary and treasurer of the former company, announces that Mr. F. M. Hight has been appointed manager of both the iron and land companies, and that Mr. V. H. Marshall succeeds Mr. Hight as cashier of the Woodstock Iron Company.

## Need of Banking Capital in the South.

The great need of more banking capital in the South has been repeatedly mentioned in the MANUFACTURERS' RECORD. An editorial upon this subject published some months ago was very freely commented upon by the Southern papers, a few of them claiming that the MANUFACTURERS' RECORD was wrong in stating that business was restricted in many places by the lack of banking capital. That our position was correct admits of no question. Discount and interest rates throughout the South are entirely too high for the good of all business interests except that of lending money. It is almost impossible for trade and manufactures to reach their full development while money commands such exorbitant rates as are current in the South. The Evening Capitol, of Atlanta, has lately very clearly pointed out the disadvantages under which Southern merchants and manufacturers labor, paying as they do anywhere from 9 to 15 per cent. or more for money, in competition with Northern houses, where rates run from about 3 or 4 to 6 per cent. Banking facilities in the South are entirely inadequate to the volume of trade, and this very fact seriously hinders the growth and development of that section.

Money is almost going a begging in the financial centers of the North. Millions of dollars are constantly being invested at 3 per cent., and in some cases at even lower figures, while millions more are now lying idle yielding no profit whatever. The owners of this money would, of course, be only too glad to find thoroughly safe investments at 6 to 10 per cent. There is room in the South for the investment of many millions at such rates, and where the investment would be almost or quite absolutely safe. There are good openings for probably over a hundred banks where such institutions are badly needed, and where a very profitable banking business would depend simply upon the proper business management. Possibly there may be a good many more than a hundred such places in the South, but certainly that number could easily be found. Even the larger cities of the South, with but few exceptions, lack sufficient banking capital.

Now that the outlook for the crops is so good and the certainty of a large volume of trade in the South so nearly assured, there ought to be a strong effort on the part of Southern people to place these facts before the moneyed men of the North. They ought to be convinced that there are splendid openings for the profitable investment of money in establishing banks at many places where they are now so badly needed. With proper efforts and by direct personal work we believe that very large sums of money now idle or yielding only a small income could readily be transferred from the North to the South, to the great benefit of both sections.

The South must have more banking capital for her merchants and manufacturers, and especially the latter, to reach the highest state of prosperity. Now is the time to move in the matter.

## ATLANTA, GA.

### ITS HISTORY, PROGRESS, ETC.

#### The Gate City is One of the "Boomers."

Atlanta may with truth be called "The Phoenix of the South." In 1864 there were but 600 houses left out of over 6,000. The remainder succumbed to the horrors of the civil war. Her population in 1865 was 10,000; in 1870, 22,000; in 1875, 30,000; in 1880, 37,500, and in 1885, 56,837. She has gained in the last five years over 50 per cent. in population.

Her public buildings, private dwellings, schools, churches, hotels, banks, stores, factories, etc., are models of architecture, being substantial in build and modeled after the latest and most modern designs. The city presents a magnificent and solid aspect to the beholder, and evidences of thrifty progress abound on every hand. There are 1,200 retail business houses and 106 wholesale, which, with her banks, cotton and other factories and railroad corporations, do a business of over \$107,000,000 annually.

She has 9 grammar, 2 high and 10 private schools. She has 60 white and 8 colored churches, with a seating capacity of over 37,000 and a membership of over 10,000.

Her newspapers number 20, with a capital of over half a million dollars. There are 7 banks, 3 cotton mills, 3 cotton compresses, 1 cotton seed oil mill, 7 railroad shops, 1 watch factory, 10 brick yards, 14 foundries, 4 furniture factories, 4 flour and grist mills, 3 broom factories, 11 planing mills, 13 patent-medicine concerns, 2 shuttle works, 2 paper mills, 2 trunk factories, 2 ice and 2 soap factories, 13 saw mills, 1 bridge works, 1 saw works, 7 marble and stone yards, and hundreds of smaller manufacturing industries, numbering altogether 494 manufacturing establishments, employing nearly 12,000 hands, with a wage list annually of nearly \$5,000,000.

According to the 10th Census United States, Atlanta is the third city in the Union in manufacturing rank—that is, in percentage of population employed in manufactures. Lowell and Lawrence, Mass., alone excel her—the former with 50 per cent.; the latter with 49 per cent. Atlanta's percentages are 46—an excellent exhibit.

#### A BIG COTTON MARKET.

As a cotton mart Atlanta is ahead of every other interior mart in the South. Her cotton receipts in 1885 have reached 175,000 bales. She has warehouses capable of storing 45,000 bales, and 3 compresses with a capacity of 3,000 bales a day. As the cotton trade has rapidly increased in the past so will it increase in the future. She is right in the cotton belt. Her railway facilities are great and growing, and her merchants are alive and enterprising.

#### ATLANTA'S RAILWAYS.

I quote from Col. I. W. Avery's valuable work, "Atlanta and Georgia Portrayed," published by him under direction of the "General Information Committee of the National Commercial Convention," which met here in May of the present year:

"Atlanta occupies to-day a position almost unparalleled in the South, in its peculiar relations to the great railway systems that seek to control the transportation business between this section and both the North and West. She is the focal point in Georgia of four stupendous railroad combinations—the Central, the Richmond & Danville, the East Tennessee, Virginia & Georgia, and the Louisville & Nashville systems of railway, including thousands of miles of track radiating through a quarter of the vast Union, and involving hundreds of millions of property."

Besides this, through the Georgia Railroad, Atlanta connects with the great Coast

Line system. She has direct communication with Brunswick, Savannah, Port Royal, Charleston and Norfolk, the South Atlantic seaports. She is on the grand trunk air-line route from New Orleans to Richmond, Washington, Baltimore, Philadelphia, New York and Boston. She has by the Georgia Pacific direct connection through the measureless iron and coal mines of Alabama with the valley of the Mississippi river. She is on the dividing line between the West and the ocean, the cotton belt and the mountains. And by the Central and East Tennessee, Virginia & Georgia systems she grasps the vast travel and orange traffic from Florida.

It is no accident that this supreme pre-eminence has fallen to Atlanta, but it is the result of adequate causes—her geographical advantages and the enterprise of her citizens.

Atlanta has now 8 trunk railroads terminating in the city: The Georgia Railroad, 171 miles, to Augusta, completed 1843; Macon & Western, 103 miles, to Macon, completed 1845; Western & Atlantic, 138 miles, to Chattanooga, completed 1851; Atlanta & West Point, 87 miles, to West Point, completed 1855; Air Line, 269 miles, to Charlotte, completed 1873; East Tennessee Road, 85 miles, to Macon, completed 1882; East Tennessee Road, 91 miles, to Rome, completed 1883; Georgia Pacific, 175 miles, to Birmingham, completed 1883; the Marietta & North Georgia, to Ellijay. These railroads have various branches and feeders penetrating all sections of Georgia and surrounding States.

These lines have all been extended and enlarged. The Georgia Railroad now embraces 318 miles of road; the Macon & Western, now the Central, includes 1,455 miles; the Atlanta & West Point runs through cars to Montgomery, Mobile and New Orleans; the Air Line is part of the Richmond & Danville system of over 2,550 miles, and the East Tennessee, Virginia & Georgia scheme embraces fully 2,575 miles; the Georgia Pacific is being extended to the Mississippi river; the Marietta & North Georgia will soon penetrate North Carolina.

#### THE CENTRAL RAILROAD.

This vast scheme connects Atlanta with Macon and Savannah, and by ocean steamer with the Northern Atlantic seaports. By the Southwestern Road it gives our Gate City a straight railway across to Southwestern Georgia and Florida, and also by way of Columbus with Alabama. Goods are shipped from New York to Atlanta by one continuous freight system under one management.

#### THE GEORGIA RAILROAD.

The Georgia Road has a powerful bank connected with it—one of the most solid institutions in the State.

This railroad passes through and into 20 counties of the State—the richest and most fertile, taking them as a whole, having an aggregate of \$98,838,879 of wealth and \$37,316,280 of city property, manufacturing \$16,280,164 of products and producing a total of \$12,085,076 of farm crops, including 158,968 bales of cotton and 5,050,000 bushels of grain.

This road connects Atlanta with the Richmond Air Line, the Wilmington Coast Line and the Charleston steamers by the venerable yet vital South Carolina Railroad, thus being the conduct pipe, as it were, for three vast leading lines of transportation to the North.

#### THE GEORGIA PACIFIC RAILWAY.

This road is an extension of the Richmond & Danville system. Its line as located and partly completed extends from Atlanta, the capital of Georgia, directly westward through Anniston and Birmingham, Ala., to Columbus, Miss., and thence either to Greenville, on the Mississippi river, or to Arkansas City, higher up. From its point of crossing it may have additional lines of extension into Texas, and finally to the Pacific coast.

The Richmond & Danville system has 2,229 miles of road now in operation, and connecting Atlanta with the States of Vir-

ginia, North Carolina, South Carolina and Georgia in such a way as to link their most important points with Washington, Baltimore, Philadelphia and New York. To this system the Georgia Pacific Railway, with its branches, when completed, will add 700 miles, and will open up a region of country exceedingly rich in mineral, forest and agricultural resources, a large proportion of which has hitherto been without even the ordinary facilities for transportation.

#### THE EAST TENNESSEE, VIRGINIA & GEORGIA RAILROAD.

This extensive railroad system connects Atlanta direct with Rome and Macon; gives a second straight line to the Atlantic, terminating at Brunswick, our own port, and offers a grand trunk line to the North by way of East Tennessee. It affords a continuous freight alike to Norfolk and our own sea coast.

#### THE WESTERN & ATLANTIC RAILROAD.

This road, known as the State Road, was built by the State to give us connection with the great West. It was finished in 1850. It was destroyed during the war and rebuilt by the State, and the bonds will be due in 1886 that were used for the purpose.

This line of road has been a powerful little railway in the Southern transportation schemes, holding its monopoly of strength and business amid toppling syndicates; unaffected in rush of great changes and the war of massive systems; making all the stupendous enterprises of steel track, represent-

the city in all of its conditions, and it is one of the healthiest in the country.

#### REAL ESTATE.

The rate of taxation is but 1 1/2 per cent.; has not been higher for the past 14 years. There are over 20 real estate firms in existence and nearly all are actively employed. The building of new houses has averaged 1,500 a year since 1880. She has 10 miles of paved streets and 100,000 feet of sewerage. A large amount of foreign capital has been invested, and street improvement is the order of the day.

#### PARKS AND SPRINGS.

Peters' Park, a beautiful site, has 220 acres, 65 of which will be laid out into streets and squares. The remainder will be divided into large lots for residence property.

Grant Park, 100 acres, another lovely spot, is to be one of the most charming parks in the South.

Ponce de Leon Springs, three miles from town. Both parks and springs are reached by street cars. Ponce de Leon has several springs very valuable for their curative powers in all kidney complaints.

#### FRUITS, VEGETABLES, ETC.

The climate and the soil combine to make fruit growing a valuable source of revenue to the large number of persons engaged in it. One man has over 60,000 peach trees bearing, and ships in the season from 5,000 to 6,000 crates daily. Good market gardeners can come here and get rich in a few years.



THE NEW CAPITOL BUILDING.

ing millions of aggressive capital, pay tribute to its sovereignty. This road joins Atlanta to Chattanooga, where the great Louisville & Nashville system, with its net work of railways over the immense West, and the Cincinnati Southern tapping the Northwest, pour a vast volume of business.

#### THE MARIETTA & NORTH GEORGIA RAILROAD.

It now has a potential feeder in the narrow gauge railroad called the Marietta & North Georgia Railroad, which bids fair to revolutionize the marble and stone business of the South. The section it taps is a wonder of health, beauty and mineral wealth, as well as a royal farming country. There is inexhaustible marble and great quantities of gold and copper.

THE ATLANTA & WEST POINT RAILROAD now give to Atlanta all the advantage that she possesses of direct connection with the gulf by the Atlanta & West Point Railroad, and it will be seen that her railway opportunities are simply unsurpassed. This road links her to Pensacola, Mobile, New Orleans and the great South, etc."

#### THE CLIMATE.

Her altitude is 1,050 feet above the level of the sea and 500 feet above the level of the Tennessee and Cumberland rivers. She is absolutely free from all malaria, and the air is breezy and delightful, even in the warmest of summer months. She has never had an epidemic, and her death rate for the last 4 years has been but 21 in 1,000. Her sanitary regulations are admirable. Take

#### TO SUM UP.

Atlanta, with her superior geographical position, equable climate, nearness to coal, iron, marble, gold, copper, lumber, etc., offers to enterprising men of means and brains unsurpassable opportunities for investing their money, and doubling and quadrupling it in a few short years. There are plenty of opportunities awaiting for men who will seize them by their forelocks and make them yield up their golden treasures. Being the gateway of the South, the center of Dixie, the pivotal point of all the States south of the Ohio river, west of the Atlantic ocean and east of the Mississippi river, Atlanta has the winning hand in the game of Southern progress, and to those who come bringing sense, judgment and energy, she will deal it unsparingly.

#### THE NEW CAPITOL BUILDING.

The State of Georgia is now building a magnificent structure, to be used for State purposes, in Atlanta. It is being built by Messrs. Miles & Horn, of Toledo, O., from designs made by Edbrooke & Burnham, Chicago, Ills., architects. Both of these firms secured their contracts from the "Board of Capitol Commissioners," and were selected by said board from a number of competitive bidders.

The board consists of Henry D. McDaniel, governor and ex-officio chairman; E. P. Alexander, Philip Cook, E. P. Howell, A. L. Miller and W. W. Thomas. W. H. Harrison is

clerk. Mr. E. P. Howell was chosen to succeed Benj. E. Crane, deceased.

The stone for the building is the celebrated oolitic limestone, which has been and is daily being preferred for many of the finest and most expensive buildings in the United States, from New York to New Orleans. It is cheaper than and as durable as either granite or marble, while the chances of rust, stain or discoloration are decidedly less. It is furnished by the "Salem Stone & Lime Company," of Louisville, Ky., and comes from their quarries in Salem, Ind.

#### THE ARCHITECTURE

is that of the Classic Renaissance, with irregular outline in plan, showing on the main front a central projection of imposing dimensions and a massive portico emphasizing the main entrance.

Centrally through the building the open rotunda extends from the first floor through the upper stories to a height of 172 feet, and on the north and south of the rotunda a grand corridor rises to a height of 80 feet, surrounded by a gallery on each floor. A grand stairway gives access to the upper floors; an elevator runs from the basement to the top story, and a stairway leads also to the top of the dome lantern.

Rising above the main roof is the stately dome, attaining a height, exclusive of the statue, of 237 feet 4 inches, surrounded by a colonnade appropriately embellished, and furnishing a marked and striking feature of the building.

The construction is to be as near fire-proof as is practically possible, the floors being supported by stone arches and wrought iron floor beams. The halls, entrances and corridors will be floored with marble or tile.

Sewerage, drainage, ventilation and heating will be attended to after the latest approved plans. Special attention will be paid to the ventilation and heating, because it is expected that many of the sons of Georgia



ATLANTA CHAMBER OF COMMERCE.

will often get heated while ventilating their views. N. B. This last paragraph is *not* copyrighted.

Massive pilasters with carved capitals sustain the entablature, and give elegance and variety to the building. The pediment over the main entrance, supported by six monolithic columns, contains a carved representation of the coat of arms of Georgia.

#### DIMENSIONS. FEET. INCH.

Length of west and east fronts	325	1
Width of north and south fronts	172	11
Width through center, east to west, (including portico)	272	8½
Width through center, north to south	347	5
Height of basement	11	3
Height of boiler department	16	9
Height of principal story	16	9
Height of second story	30	0
Height of third story rooms, 14 feet; corridors	16	0
Height of House of Representatives	43	0
Height of Senate Chamber	43	0
Height of Supreme Court room	32	0
Height of Law Library	30	0
Height of State Library	39	0
Height of dome to top of lantern	237	4
Diameter of dome at base	75	5
Diameter of rotunda	48	7

It is expected that the building will be finished in a little over 3 years from date; and when it is, Georgia may be proud of her capitol building.

The cut here shown gives the reader of to-day an idea of the building as it will appear in 1889.

#### ATLANTA CHAMBER OF COMMERCE.

This building was completed in December of last year and was occupied by the association in that month. It is a five-story building, including basement. Fay & Eichberg, architects. It cost \$36,500, and the lot upon which it stands cost \$13,400. It is conveniently situated, being located at the corner of East Hunter and Pryor streets, opposite the Fulton County Court House. The first floor is occupied by the city government. The chamber was organized on the 22d of July, 1871, and reorganized May 14, 1883. Membership, 204; secretary, H. M. Cottingham.

architects and builders are Bruce & Morgan, of Atlanta, who make a specialty of courthouses and public buildings.

#### AS A SUMMER RESORT.

Atlanta is fast becoming a good place to pass the warm months. The thermometer behaves sensibly, both winter and summer. The highest portions of the city are over 1,150 feet above sea level; the air is ever fresh and pure; an epidemic was never known, and in the warmest of weather the nights and mornings are delightfully cool and pleasant.

The old idea of the seashores of the northeast being the proper place for a Southerner to summer at is exploded. Now the Georgian remains at home and invites his Northern friends to come South in July and August. The writer has found it much warmer at Long Branch in July than he finds it here. A Northern gentleman who

per cent. of the present census, and any one in his senses cannot help but call the thing phenomenal. It has surprised its owners more than any one else. It is a marvel in cheap journalism. It is delivered at any house in Atlanta six days for 6 cents, or 25 cents per month. Col. I. W. Avery, a journalist of high repute and one of the best known gentlemen in Georgia, is the editorial manager.

#### THE GRANT HOUSE.

A very nice, quiet, roomy hotel is the Grant House. It is located on Whitehall street, between Hunter and Mitchell streets, and is just three blocks from the Union Passenger Depot and five from the post-office. It is kept by Mrs. N. N. Archer, a most estimable Georgia lady. Her brother, Mr. Jessie G. Rucker, is business manager. The rooms are large, airy and nicely furnished; table good, and transient rates but \$2 per day.

#### PROMINENT BUILDINGS.

There are many fine buildings in Atlanta. The most prominent are the new Kimball House, Gate City National Bank, county court-house, Chamber of Commerce, Constitution Building (newspaper), the present capitol and the post-office. Our cuts show the Kimball, county court, Chamber of Commerce and the new capitol buildings—the latter now building.

#### THE POST-OFFICE.

This is really a magnificent structure, and I am very sorry I could not get a cut of it, so that your readers might see a post-office building which is only excelled by a dozen others in the Union. It is located on Marietta street, one of the principal thoroughfares, and is an excellent specimen of government architecture. The present postmaster, Mr. W. T. B. Wilson, is an exceedingly pleasant gentleman.

#### THE CONSTITUTION BUILDING.

This is a large and commodious building erected and owned by the Constitution Publishing Company. Their paper, the Constitution, is one of the authorities in the South, and has, I believe, the largest circulation of any paper south of Louisville.

#### THE NEW H. I. KIMBALL HOUSE.

This is the finest hotel in the Southern States. It was completed during the present year, and was formally opened on February 1st. The building is seven stories high, occupies nearly one whole block, and cost, including furniture, etc., \$625,000. The style of architecture is Venetian, and the building is practically fire-proof. It was built by Scoville, Beermann, Thompson & Co., and Scoville, Beermann & Co. are the lessees. The house contains about 430 rooms and can accommodate 1,000 persons. The main entrance is on Pryor street, and this opens into a very handsome arcade. On the third floor is a good-sized ball-room. There are two passenger and three freight elevators. The kitchen and laundry are said to be the best equipped in the country. Take it altogether, the city of Atlanta may be justly proud of this new and magnificent hotel.

E. Y. Clarke, Esq., No. 11 East Hunter street, president of the Atlanta Book and Paper Publishing Co., has published two or three editions of the "History of Atlanta," which gives in detail the early history and present status of the Gate City. 250 pages. Price 75 cents, post-paid.

#### FONT.

OUR readers throughout the South will confer a favor if they will send us a few lines as to the prospects for the cotton, corn and tobacco crops and the outlook for the fall business.



FULTON COUNTY COURT HOUSE.

#### FULTON COUNTY COURT HOUSE.

The above building is the Fulton County Court House, erected in Atlanta, Ga., at a cost of \$100,000. For beauty and convenience this court-house building is unsurpassed by any in the South. The plan is arranged for all the various county offices and courts, and also contains the largest public hall for

has lived here during the past three years told me that he never goes to his old home in summer; but he runs up there about the holidays to visit his old friends and relatives, and to keep up his knowledge of the appearance of snow.

#### A PHENOMENAL NEWSPAPER.

The Atlanta Evening Capitol, a recently



NEW H. I. KIMBALL HOUSE.

conventions, mass meetings, etc., in the State. The arrangements for steam heating and ventilation are complete and perfect, and all the clerks' offices are absolutely fire-proof. The building is supplied with all the gas and water conveniences, and in every way is a modern, first-class public building. The

established penny paper, issued its first number on the 4th day of July, 1885, and on the 25th day of same month,—just three weeks,—its actual number of paid subscribers was 5,162—a remarkable showing for a new paper, and in a city with a population of 56,837. It is very nearly to

PERKINS BROTHERS, Atlanta, Ga., dealers in steam engines, saw mills, cotton gins, presses, separators, wood-working machinery, belting, machinery oils, etc., etc., report an improvement in their business and look forward to a large fall and winter trade.

# CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

## The New Industries of a Week.

As compared with the corresponding time last year, the industrial activity of the South is somewhat remarkable. From the 1st of June to November 15, 1884, the weekly list of new enterprises organized in the South, as published in the MANUFACTURERS' RECORD, was very short, occupying only from a column and a-half to three columns, averaging about two and a-half columns a week. Since the 1st of June this year this list has been running at from four to six columns a week, or fully double the space occupied during the same months of 1884. Now that large corn and cotton crops are considered sure, arrangements are being made for a much greater activity in the organization of new enterprises than has yet been seen. The second week of August shows up with quite a long list of important industries just organized. In Alabama the rumor reported last week of a flour mill to be built in Birmingham is confirmed by the purchase of a site for a \$40,000 mill, the full capital having been subscribed; the Calera Land Co., the organization of which, with a subscribed capital of \$500,000, was reported last week, it is rumored will erect an iron furnace and a cotton seed oil mill at Calera, Ala. J. R. Adams, Montgomery, Ala., is the general manager. A saw and planing mill have recently been built at Georgiana, Ala.

Harold, Bro. & Scott, Brewton, Ala., it is stated, will rebuild their saw mill. The Curry Manufacturing Co., Huntsville, Ala., have built a cotton compress that will be put up in that city.

P. H. Moore & Co., Birmingham, Ala., have received a contract at \$9,250 for building a school in that city.

There is talk of establishing a mattress factory in Anniston, Ala.

A cigar manufactory will be started in Huntsville, Ala.

W. S. Reese, T. H. Carr, J. W. Hale and Thomas Williams, Committee on Public Works, Montgomery, Ala., are corresponding with contractors and others to find the probable cost of water-works for that city. The city has been authorized to issue \$200,000 in bonds with which to build water-works. Florida reports a \$50,000 gas and electric light company organized at Orlando; a brick yard, saw and grist mills, &c. Georgia has organized a \$50,000 railroad construction company; \$20,000, the full capital, has been subscribed for a new fertilizer factory at Newnan, previously reported as being worked up; \$7,000 is being spent to enlarge a lithographing establishment, and machinery for Albany's compress is nearly ready, while a number of railroad companies have asked to be incorporated. Kentucky has a \$300,000 cable railway machinery company, a \$100,000 gas machine company, and a \$60,000 gas company, organized during the week, besides smaller enterprises. A \$10,000 glass manufacturing company, and a \$15,000 water works company have been organized in Maryland, while arrangements are being made for establishing a hosiery factory in the same State. In North Carolina, Dr. Clark Whittier, whose late purchase of 60,000 acres of land, with a view to cutting timber, attracting immigration, laying out a city, &c., was duly noted, has added 6,000 acres more to his purchase. Goldsboro and Durham are figuring on water works; considerable new machinery is being put into mines, and a number of small industries established. The purchasers of the Campden Cotton Mills, in Greenville, S. C., have organized and are preparing to start the mills up; Beaufort's new foundry and machine shop is well under way. In Memphis,

Tenn., contracts have been awarded for the 400-barrel flour mill; Maryville is to have a furniture factory; the large planing mills lately burned in Memphis will be rebuilt at once, and a large wood-working factory in Chattanooga nearly doubled in capacity. Texas has organized a \$25,000 milling company, a \$10,000 canning company, and a \$25,000 soap company, while West Virginia has a car ventilator manufacturing company with a capital stock of \$1,000,000, reported all paid up; prospective boiler works in Charleston and water-works in Charlestown.

## ALABAMA.

The flour mill previously reported as to be built in Birmingham, Ala., is to be put up by W. G. Wharton and others, of Montgomery, Ala., who have purchased ground for a \$40,000 mill and elevator.

W. H. Hubbard, clerk to the Board of Revenue, Montgomery, Ala., will receive bids till September 7, for the erection of a brick jail.

The Calera Land Co., the organization of which was reported last week, it is rumored will erect an iron furnace and a cotton seed oil mill at Calera, Ala. J. R. Adams, Montgomery, Ala., is the general manager.

A saw and planing mill have recently been built at Georgiana, Ala.

Harold, Bro. & Scott, Brewton, Ala., it is stated, will rebuild their saw mill.

The Curry Manufacturing Co., Huntsville, Ala., have built a cotton compress that will be put up in that city.

P. H. Moore & Co., Birmingham, Ala., have received a contract at \$9,250 for building a school in that city.

There is talk of establishing a mattress factory in Anniston, Ala.

A cigar manufactory will be started in Huntsville, Ala.

W. S. Reese, T. H. Carr, J. W. Hale and Thomas Williams, Committee on Public Works, Montgomery, Ala., are corresponding with contractors and others to find the probable cost of water-works for that city. The city has been authorized to issue \$200,000 in bonds with which to build water-works.

A large four-story brick building is being erected in Birmingham, Ala., by Jos. Wilson.

D. B. Sapp & A. Griffith are receiving the machinery for their new steam mill and gin at Hanceville, Ala.

J. A. Hall, Jonesborough, Ala., previously reported as building a grist mill, is also erecting a gin. Part of machinery has been received.

J. H. Duran, Calera, Ala., is making arrangements to manufacture bricks.

John W. Hardy, Calera, Ala., is erecting a new engine at his lime works, and putting in new and improved machinery for a barrel and stave factory.

## ARKANSAS.

Lane, Sides & Young, Rector, Ark., are putting up a steam ginnery.

It is reported that electric lights are to be established in Helena, Ark.

## FLORIDA.

Efforts are being made to build a \$100,000 hotel in Orlando, Fla.

Grading on the Sandford, Fla., & India River Railroad is to be commenced at once.

W. R. Anno, N. L. Mills, Nat. Poyntz, T. J. Shine and J. B. Paramore have organized at Orlando, Fla., the Orlando Gas & Electric Light Co., capital stock \$50,000, to establish gas and electric light works.

A brick yard has been established in Sandford, Fla., by Mr. Weiskoff.

T. J. Edwards, Garden City, Fla., has recently completed his saw and grist mill.

There is talk of a street railway in Bartow, Fla.

Pensacola, Fla., is considering the building of water-works.

F. Lozano, of Lozano, Pendas & Co., New York, reported last week as contemplating the removal of their large cigar factory to Jacksonville, Fla., reports that they have about concluded to make the change.

Work on the new opera house at St. Augustine, Fla., has been commenced.

## GEORGIA.

Burden & Son, lithographers, Atlanta, Ga., are spending about \$7,000 for new machinery.

Bills have been introduced in the Georgia legislature to incorporate the Georgia Midland & Gulf Railroad Co., the Savannah & Tybee Railway, the Savannah & Western Railroad Co., the Athens & Columbus Railroad Co. and the Rome Street Railroad Co.

Machinery for the compress previously reported as to be built in Albany, Ga., will shortly be ready to put up.

Adams Bros., Chattanooga, Tenn., have received contracts for building a \$27,000 school-house in Atlanta and a \$25,000 school-house in New Orleans.

J. S. Morris, Atlanta, Ga., who has lately established a brick yard, expects to double its capacity shortly.

The Coweta Fertilizer Co., previously reported as organized in Newnan, Ga., to build a fertilizer factory, has been duly incorporated, the capital stock, \$20,000, having been all subscribed; will erect a fertilizer factory.

Evan P. Howell, of Atlanta; Geo. Adair, James W. English, Moses Joseph, Cliff B. Grimes, Louis F. Garrard and Wm. Reed, Jr., have incorporated in Muscogee county, Ga., the Georgia Midland Construction Co., to build railroads, bridges, saw mills, and do a general construction business. Capital stock \$50,000, with privilege of increasing to \$1,000,000.

Mr. Gress, Gress' Mill, Ga., has erected new engine and boiler and added other machinery to his planing mill, doubling the capacity.

M. A. Adams will put up a flour mill at Gun Log, Franklin county, Ga.

## KENTUCKY.

A new distillery is to be built in Uniontown, Ky.

The Lane National Cable Railway Co., capital stock \$300,000, has been organized in Covington, Ky., by H. N. Lane, G. B. Kerper, S. M. Lemont, Albert G. Clark and John Kilgour, to manufacture cable railway machinery.

Benj. P. Easton, E. S. Stuard, T. B. Lee, E. K. Sumerwell and A. J. English, have organized in Covington, Ky., with an office in Cincinnati, O., the Star Manufacturing Co., to manufacture gas machines. Capital stock \$100,000.

W. H. Clarke, Owensboro, Ky., has commenced the erection of a 3-story addition 56 x 100 feet to his tobacco factory.

Mr. Woolum, of Ohio, has erected a saw mill on the land of M. B. Penebaker, Upper Tygart, Ky.

W. B. McDonough, of Cincinnati, O., and Thomas Wells, John Heiser and Dr. W. S. Moores, of Maysville, Ky., have incorporated in Maysville, Ky., the Citizens' Gas Light Co., to build gas works. Capital stock is not to exceed \$60,000.

The Eastern Kentucky Railroad Co. are building five miles of road in Carter county, to be known as the Barrett's Creek Branch.

B. Baer, Owensboro, Ky., states that he will erect in that city a 12-ton ice factory.

## LOUISIANA.

Moore & Appel, Shreveport, La., have received contract for clearing and grading first section of the Texarkana & Northern Railway from Texarkana to McKinney, Bayou.

Samuel H. Buck, Director-General of the New Orleans Exposition, invites proposals for furnishing electric lights to the Exposition.

Kelly Bros., near Donaldsonville, La., previously reported as intending to rebuild their large rice mill, are preparing to commence work on it.

Gebbert & Russell, Attakapas, La., have rebuilt their shingle mill, burnt several months ago.

## MARYLAND.

D. S. Truitt, Greensborough, Md., has established a fruit canning house.

Bennett & Barnes, Sykesville, Md., will engage in making wagons.

The Co-operative Druggists Glassware Manufacturers' Association has been organized in Baltimore by Michael J. McHenry, Hardman Shaw, Anthony Kelly, John W. Smith, and others, to establish a glass factory; capital stock, \$10,000.

Jacob Hess, Waynesboro, Pa., will establish a hosiery factory at Hagerstown, Md.

Lawrence B. McCabe, Wesley W. Reynolds, James A. Davis, John R. Bond and Charles A. Shure have organized at Port Deposit, Md., the Port Deposit Water Co., capital stock \$15,000, to build water-works in that town.

Graham & Schmidt, Baltimore, furniture manufacturers, will erect a 4-story warehouse.

A saw mill and the frame wood-work of a new grist mill, both owned by Henry Reckord & Son, of Reckord, Md., were washed away by the late storm.

## MISSISSIPPI.

It is reported that a compress will be built at Grenada, Miss.

A broom factory has been started at Gallman, Copiah county, Miss.

## NORTH CAROLINA.

J. E. Speir, Bell's Ferry, N. C., previously reported as intending to start a distillery, will commence operations about September 15.

Dibrell & Walker, Henderson, N. C., will erect a tobacco house 40x100 feet, 4½ stories high.

James Wilson, Wilmington, N. C., will, it is reported, build 50 dwellings.

Sprague & Hart, Old Fort, N. C., will establish a tobacco hogshead factory.

The Royster Mining Co., near Blue Wing, N. C., will put in new machinery. The Harris Copper Mine, near the same place, will also put in new machinery. It is reported that these companies intend to build a 16-mile railroad from Blue Wing to Clarksville, Va.

A tobacco prize house, 140x44 feet, three stories, is being erected in Durham, N. C., by T. C. Williams, of Richmond.

Goldsboro, N. C., will decide by popular vote, September 14, whether or not to issue \$35,000 of bonds for the purpose of building water-works. J. W. Gulick, Mayor of Goldsboro, can give particulars.

**LOCKWOOD, GREENE & CO.**  
**MILL ENGINEERS.**

Office, 65 Westminster St., Providence, R. I.

Carefully prepared plans, specifications and estimates furnished for the construction, equipment and organization of new mills and the revision and improvement of old.

A steam distillery is being erected near Winston, N. C., by ex-Collector Wheeler.

Fourteen new bag looms are being placed in the Naomi Falls Cotton Factory, High Point, N. C.

A steam laundry, it is stated, will be started in Tarboro, N. C.

Dr. Clark Whittier, lately reported as having purchased 60,000 acres of land in Swain county, N. C., on which he would erect saw mills, lay out a town, etc., has purchased 6,000 acres more. Dr. Whittier's address a few weeks ago was Ashville, N. C., and mail will probably still reach him there.

S. P. Arrington, Warrenton, N. C., will receive proposals for building a tobacco warehouse.

Parties from New England will be in Durham, N. C., this month to examine into the practicability of establishing water works. Eugene Morehead, Durham, can give information.

#### SOUTH CAROLINA.

A company has been organized to build a narrow-gauge railroad from Spartanburg, S. C., to Glenn's Spring, S. C. D. R. Duncan, Spartanburg, is president.

A preliminary organization has been effected as the Augusta & Edgefield Railroad Co., with R. M. Mitchell, of Augusta, Ga., chairman, to build a narrow-gauge railroad from Augusta to Newberry, S. C.

The "Carteret Mills," Beaufort, S. C., previously reported building a foundry and machine shop, is a new enterprise established by F. H. Folsom, lately of Baltimore, with C. Townsend, superintendent.

A. & W. McQueen, Beulah, S. C., are building a ginnery.

The syndicate that purchased the Camperdown Cotton Mills at Greenville, S. C., as reported last week, has organized as the Greenville Cotton Mills; H. P. Hammett, president. The company will prepare to start the mill up again.

W. H. Mayes, Bradley, S. C., is rebuilding his gin house, burned last year.

#### TENNESSEE.

The Tennessee Ridge Manufacturing Co., Erin, Tenn., want to buy a plow handle machine.

Bristol, Tenn., and Goodson, Va., have each voted a subscription of \$25,000 towards the building of the South Atlantic & Ohio Railroad. A Boston company has contracted to build this road to Estillville by September, 1886. When built this road will open great coal, marble and timber wealth.

The Citizens' Mutual Gas Light Co., (Sam Strauss, manager,) Chattanooga, Tenn., expect to shortly enlarge their work.

N. C. Boyd, of Little River, Tenn., has purchased ground in Maryville, Tenn., intending to remove his furniture factory to the latter place.

Loomis, Hart & Co., Chattanooga, Tenn., will enlarge their wood-working factory, put in new machinery, &c.

J. C. Atkins has established a fruit evaporating and canning establishment in Shelbyville, Tenn.

Mallory, Crawford & Co. will erect a \$7,500 brick warehouse in Memphis, Tenn.

O. I. Robinson & Co., Chattanooga, Tenn., will start a steam laundry, with J. D. Robinson as manager.

Curtis & Cogswell are replacing the machinery in the stave and saw mill of Dr. A. J. Weldon, Mouth Sandy, Tenn.

It is reported that the Dayton Coal and Iron Works, of Dayton, Tenn., will erect a steel plant as soon as they have completed their furnaces.

Williams & Co., Memphis, Tenn., whose extensive planing mills were reported last week as burned, will rebuild at once.

F. Campbell & Co. have established a steam shirt factory in Memphis, Tenn.

— Titus, Angel & Daggett, of Spring City, Tenn., are erecting a saw mill on Dorton's Mountain, Tenn.

The flour mill previously reported to be erected in Memphis, Tenn., by Lanier & Co., of Nashville, will be six stories—50x86 feet. A three story warehouse, 50x150 feet, will be erected in the rear of the mill, and an elevator for storing wheat, 50x30 feet, of corrugated iron. Contracts have been awarded for the erection of the buildings. Capacity of the mill will be 400 barrels a day.

The contract for building the approach to the bridge at Nashville, Tenn., has been awarded to Marshall & Morris, of Louisville, Ky., at \$40,025.

Debbins & Parker are putting some new machinery into the Phoenix Mills, Paris, Tenn., to make tobacco boxes and barrel heads.

Jacob Peyer, who has leased the Chattanooga Cotton Factory, will add a large ginnery.

#### TEXAS.

It is reported that the money has been secured for the construction of the Midland Railroad, from Waco, Texas, via Palestine to Shreveport. A construction company has been organized to build 25 miles.

The Shreveport (La.) and Houston (Texas) railroad will be completed by the receiver; work on it to be commenced at once.

Geo. L. Franklin and others, Lampasas, Texas, are investigating a coal mine near there, lately discovered, with a view to working it.

There has been some correspondence with parties in Denison, Texas, regarding the building of a car-wheel foundry.

The Pressed Soap Co., capital stock \$25,000, has been chartered at Houston, Texas.

The Atlanta & Mount Pleasant Railroad Co. will be chartered in Texas.

The East Texas Canning Co., capital stock \$10,000, has been chartered in Texas.

Brainard Rarison, secretary of the Jenny Electric Light Co., will submit to the City Council of Corsicana, Texas, a proposition to light the city.

The Lewisville Mill Co., of Denton county, has been chartered at Lewisville, Texas; capital \$25,000.

Navasota, Texas, reported last week as figuring on water works, has received an offer from a company to build the water works for \$10,300. The Mayor can give particulars.

The water works, Fort Worth, Texas, are to be enlarged and new machinery, boilers, &c., added. Mayor of Fort Worth can give particulars.

#### VIRGINIA.

B. M. Davidson, Lowesville, Va., is repairing his flour mill.

Maj. W. T. Sutherlin will erect a \$20,000 building in Martinsville, Va.

Frank Lyman, of New York, writes us that he will not build an iron furnace in Virginia, as rumored.

#### WEST VIRGINIA.

Henry Barton, of Middleport, Ohio, has leased ground in Charleston, W. Va., on which he will erect boiler works.

The American Car Ventilating Co. has been chartered in West Virginia, to manufacture car ventilators, by Jno. M. Fennerty and W. H. Armstrong, of Washington, D. C., Michael Shaughnessy, of New York, Ed. B. Wheelock and E. John Ellis, of New Orleans, La. Capital stock \$1,000,000, stated to be fully paid up. Principal office to be at Washington, D. C.

Charlestown, W. Va., has appointed a committee to inquire into the cost of building water works. The Mayor of Charlestown can give particulars.

A \$5,500 jail will be built at Union, W. Va.

#### BURNED.

Saw mill of Dyal & Upton near Callahan, Fla.; loss \$4,000 to \$5,000. Will probably rebuild.

The Marley Mill at Wilna, Md., badly damaged by late storm.

#### A \$40,000 Flour Mill.

MONTGOMERY, ALA., August 10, 1885.  
*Editor Manufacturers' Record:*

I have associated myself with some other gentlemen in forming a stock company for the purpose of building a flouring mill. Capital stock \$40,000, paid in. While the company is not yet organized, among ourselves we have adopted the name Wharton Company Mills, and have bought the location at Birmingham, Ala. The next 40 days will be used in getting up our plans; meantime, organization will be perfected.

W. G. WHARTON.

#### A Machine Shop.

ELBERTON, Ga., August 6, 1885.  
*Editor Manufacturers' Record:*

We are erecting a shop of general repairs, including machinery and all classes of carriage and wagon work. CLARK & ADAMS.

#### Outlook Promising.

CHATTANOOGA, TENN., August 5, 1885.  
*Editor Manufacturers' Record:*

We expect to build warehouse and office 60x200 feet, brick, this fall. Our business is opening very good, and we are pressed with orders. The general outlook is promising, and it seems bottom has finally been touched.

CHATTANOOGA PLOW CO.

#### A Distillery.

BELL'S FERRY, N. C., Aug. 3, 1885.

*Editor Manufacturers' Record:*

I shall put up a small distillery at present. Will commence operations about the 15th of September. My building is 30x60 feet; will work three boilers or stills, with a capacity of 20 or 25 gallons per day. I may enlarge my business after a while. J. E. SPEIR.

#### Machinery Wanted.

ERIN, TENN., Aug. 5, 1885.

*Editor Manufacturers' Record:*

The Tennessee Ridge Manufacturing Co., Erin, Tenn., wants to buy a second-hand plow handle bending machine, or the iron for making a new one.

TENNESSEE RIDGE MFG. CO.

#### Making Cotton Ties.

CHARLOTTE, N. C., August 5, 1885.

*Editor Manufacturers' Record:*

We are buying scraps and old cotton ties, and use machinery to work them up in same style bundles as Northern pieced cotton ties.

MARGOLIUS & CO.

#### Lime Works.

BLACK'S STATION, S. C., Aug. 4, 1885.

*Editor Manufacturers' Record:*

We have just completed a perpetual lime kiln of the latest improved patent, made of iron, 100 barrels per day capacity, with preparations for an additional one. Cost about \$5,000 so far, and have some of the best quality of lime rock known to the trade. Have been in the business five years.

SIMON BROS.

#### A Virginia Mining Center.

##### Activity in Mining Operations.

EMILY MINES, VA., August 10, 1885.

*Editor Manufacturers' Record:*

Since writing to you last, a great many improvements have been going on in this part of Virginia's great gold belt. As I wrote you some time ago, we purchased this mine in May of the present year. We now have all our machinery up and running. Our mill is now running steady from 12 o'clock Sunday night to 12 o'clock Saturday night on \$20 ore. I am putting through 18 tons every 24 hours, and everything looks grand with our little enterprise, after so many failures have been made in Virginia by people who know nothing of mining at all but to spend the stockholder's money regardless of what the mine makes. My shaft will soon be down 150 feet, with ore enough in sight to last a long time. Our plant consists of one 80 horse-power boiler, one 40 horse-power engine, one 10 stamp mill, 2 full sets copper plates, 2 shaking tables, 1 Imlay concentrator, copper top. This is our mill plant. Our mill building is 80 feet long, 60 feet wide, 20 high, so that we have all our machinery plant under one roof, only in different rooms. The plant at the shaft is as follows: Size of shaft-house 50 feet long, 20 feet wide, 20 feet high, in which we have one 30 horse-power boiler, one Beckett & McDowell hoister, 15 horse-power, one 20 horse-power engine, with complete gearing, to run our 6 inch Cornish lifting pump, built by E. J. Codd & Co., of Baltimore. We also have in our shop one large No. 9 Cameron pump. Our other buildings consist of dwellings and store, in which we keep stock of goods for our hands; one blacksmith shop, with complete outfit; one carpenter and machine shop; oil house and powder magazine. Our mine, plant, and everything else, cost us \$30,000, and we expect from present prospects and mill runs to get back all of our original investment by January 1, 1886.

The Goodwin Mining Co. are now working their mines located very near here (their office is 35 S. Charles street, Baltimore.) The celebrated White Hall Mines are at work—owned by Senator Fair and others. The Furnace Copper and Sulphuret Mining Co. are pushing along with their works. The Chesapeake & Ohio Railroad Co. are building a feeder 4 miles long to these mines; it will be finished one month from now and trains running on it. The Adams Copper Mining Co. are working 150 men now raising copper sulphurets, and are shipping them to New York. A Philadelphia company have just bought a tract of land very near here and paid \$20,000 cash; will be at work in a week. T. J. MCSPEDEN, Supt. Emily Mining Co. MINE RUN P. O., ORANGE CO., VA.

#### A Big Tobacco Factory.

ROANOKE, VA., August 10, 1885.

*Editor Manufacturers' Record:*

It is our intention very soon to commence enlarging our factory building by an addition of 40 feet, 3 stories high, mansard roof. When finished will have a capacity of half million pounds on 3 floors 36 feet wide, each 150 feet long. W. K. ANDREWS & CO.

#### Enlarging Wood-Working Factory.

CHATTANOOGA, TENN., August 10, 1885.

*Editor Manufacturers' Record:*

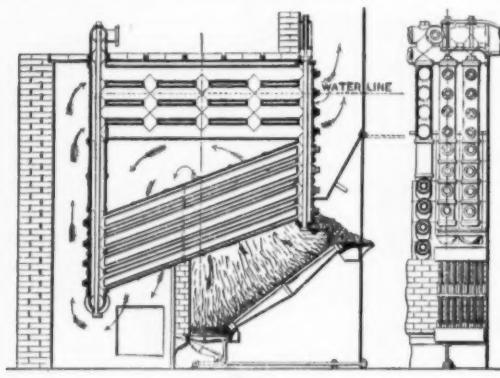
We contemplate some improvements and extensions at our works, but have not yet perfected our plans so as to give definite particulars. LOOMIS, HART & CO.

HOWARD & BULLOUGH & RILEY have just completed the erection in the Granite Mills, Fall River, of 12 of their improved roving frames.

### Notes on Boiler Construction.

It is seldom that the changes and modifications which a successful mechanical design has passed through are given to the public. We are enabled, by the courtesy of the Babcock & Wilcox Co., to present to our readers in a condensed form the various modifications which their well-known water-tube boiler has passed through since its first introduction in 1867. The cuts not only show styles which were, at the time they were built, put out as their regular manufacture, but also many forms with which extensive experiments were made to determine their practical value, and include several styles of boilers originally built by other parties, the patents for which were subsequently purchased by the Babcock & Wilcox Co. on account of their close approximation to their system of inclined heating tubes connected to an elevated steam and water reservoir, having a continuous circulation of the water through the same, and a passage of the heated gases at right angles to the line of the tubes.

These principles they have adhered to in all constructions. Where only slight modifications in the general design have been tested, no special cuts are given, a brief description answering every purpose. Each modification has been numbered for convenience of reference.



No. 1.

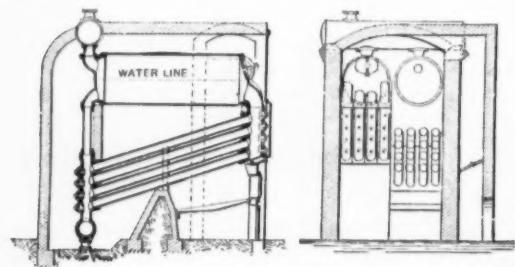
No. 1.—The original Babcock & Wilcox Boiler. The main idea was safety. To it all other elements were sacrificed wherever they conflicted. The boiler consisted of a nest of horizontal tubes serving as steam and water reservoir placed above and connected at each end by bolted joints to a nest of inclined heating tubes filled with water. Internal tubes were placed in these latter to assist circulation. The tubes were placed in vertical rows above each other, each vertical row and its connecting end forming a single casting. Hand holes were placed at the end of each tube for cleaning.

No. 2, (no cut.)—The internal circulation tubes were found to hinder rather than help circulation, and were left out.

Nos. 1 and 2 were found to be faulty in both material and design, cast metal proving itself unfit for heating surfaces placed directly over the fire, cracking as soon as they became coated with scale, and unable to transmit the heat received to the water inside.

No. 3, (no cut.)—Wrought iron tubes were substituted for the cast iron heating tubes, the ends being brightened and laid in the mould, the headers cast on.

The steam and water capacity was insufficient to secure regularity of action, having no reserve upon which to draw when irregularly fed or fired. The attempt to dry the wet steam produced, by superheating in the nest of tubes which formed the steam space was found to be impracticable. The steam delivered was either wet, dry or superheated, according to the demands upon the boiler. Sediment was found to lodge in the lowest point of the boiler at the rear end, and the exposed portion of the castings cracked off when subjected to the heat.

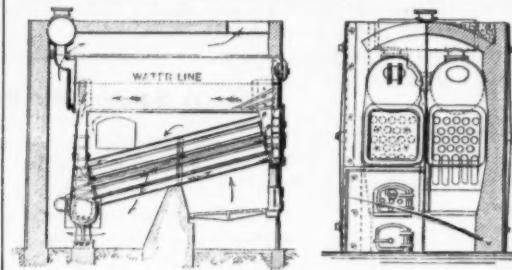


No. 4.

No. 4.—A plain cylinder boiler carrying the water line at the center, leaving the upper half for steam space, was substituted for the nest of tubes. The sections were made as in No. 3, and a mud-drum added to the rear end of the sections at the lowest point farthest removed from the fire. The gases passed off to the stack at one side without coming in contact with it.

Dry steam was secured by the great increase of separating surface and steam space, and the added water capacity furnished a storage for heat to tide over the irregularities of feeding and firing. By the addition of the cylinder boiler it lost one of its elements of safety; but, on the other hand, it became a serviceable and practical design, retaining all the other elements of safety except small diameter of steam reservoir, which never exceed 36 inches in diameter, and are removed from the direct action of the furnace.

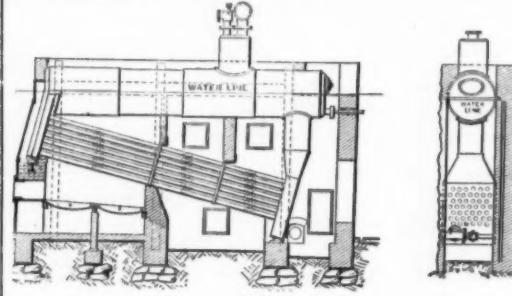
The difficulties encountered in securing reliable joints between the wrought iron tubes and the cast iron headers made a change of this detail necessary.



No. 5.

No. 5.—Wrought iron water legs were substituted for the cast iron headers, the tubes were expanded into the inside sheets, and a large cover placed opposite the front end of the tubes for cleaning.

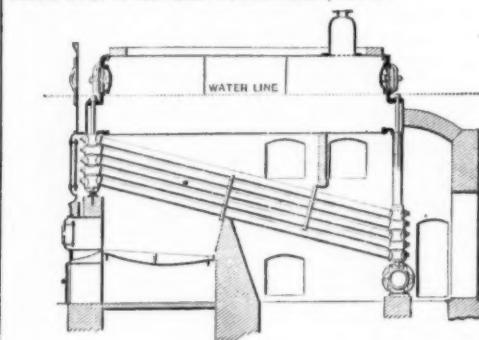
The staggered position of tubes—one above the other—was introduced and found to be more efficient and economical than where the tubes were placed in vertical rows. In other respects it was similar to No. 4.



No. 6.

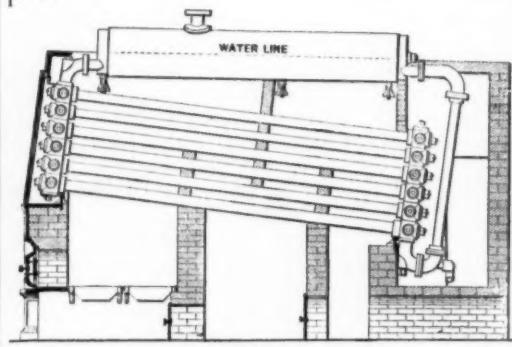
No. 6.—A modification of No. 5, in which longer tubes were used, with three passages of the gases across them, to obtain better economy.

A number of this type were built, but their excessive first cost, lack of adjustability of the structure under varying temperatures, and the inconvenience of transporting the last two styles, together with the "commercial" engineering of several competing firms then in the market, who made a selling point of their ability to add power to any given boiler after it had once been erected, led to—



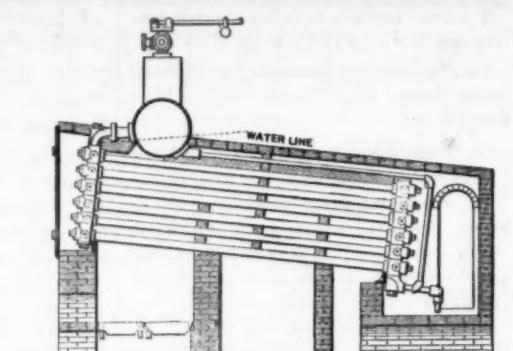
No. 7.

No. 7.—In this, separate T heads were screwed on to the end of each inclined tube; their faces milled off; the tubes placed on top of each other, metal to metal, and bolted together by long bolts passing through each vertical section of tubes and the connecting boxes on the heads of the cylinder.



No. 8.

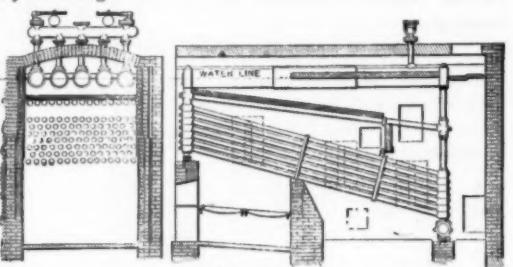
No. 8.—Experiments were made on four passages of the gases across the tubes, and the downward circulation of the water at the rear end of the boiler was carried to the bottom row of heating tubes.



No. 9.

No. 9.—An attempt to reduce the amount of steam and water capacity, increase the safety and reduce the cost. A drum at right angle to the line of the tubes was tried, but found to be insufficient to secure dry steam or regularity of action.

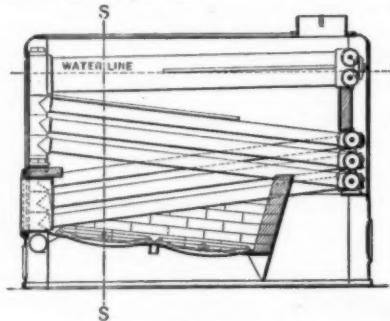
The changes in Nos. 8 and 9 were not found to possess any advantages.



No. 10.

No. 10.—A move in the same direction. A nest of small horizontal drums 15 inches in diameter were used, instead of the single drums of larger diameter, a set of circulation tubes being placed at an intermediate angle between the main bank of heating tubes and the horizontal tubes which formed the steam reservoir to return the water carried up by the circulation to the rear end of the heating tubes, allowing the steam only to be delivered into the small drums above. The result was exceedingly wet steam, with no improvement in action over No. 9.

The four passages of the gases did not add to the economy in either No. 8, 9 or 10.

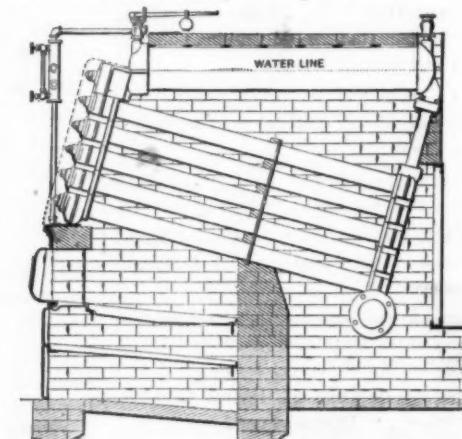


No. 11.

No. 11.—A trial of a box coil system, in which the water was made to traverse several times through the furnace before being delivered into the drum above.

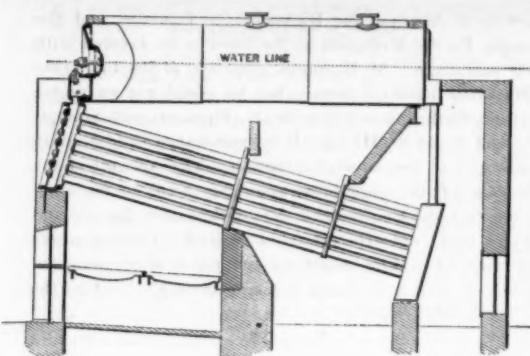
The tendency was to form steam in the middle of the coil and blow the water out from each end, leaving the tubes practically dry until the steam found an outlet and the water returned. This boiler had a defective circulation and a decidedly geyser-like action, and produced wet steam.

All the above types, with the exception of Nos. 5 and 6, had a large number of bolted joints between their several parts, and many of them leaked seriously from unequal expansion of the parts as soon as the heating surfaces became scaled, enough boilers having been placed at work to demonstrate their unreliability in this particular.



No. 12.

No. 12.—Water boxes formed of cast iron of the full width and height of the bank of tubes were made of a single casting, which were bolted to the steam water-drum above.

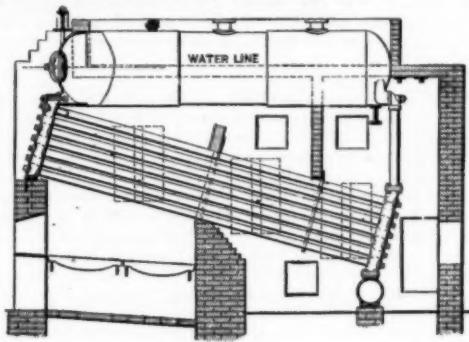


No. 13.

No. 13.—A wrought iron box was substituted for the cast iron. In this stays were necessary, and were found, as is always the case, to be an element to be avoided wherever possible.

A slanting bridge-wall underneath the drum was introduced to throw a larger portion of its surface into the first combustion chamber above the bank of tubes. This was found to be of no special benefit and difficult to keep in good order.

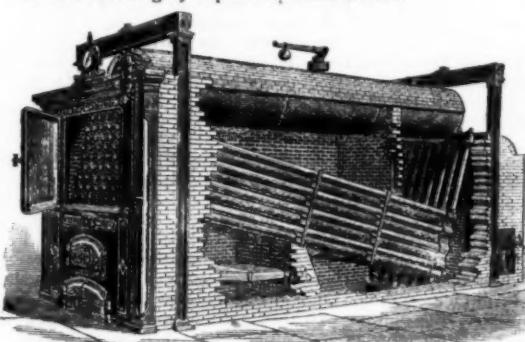
The company then made a thorough investigation of all their previous experiments, examined their boilers in use, and settled down on the style next shown.



No. 14.

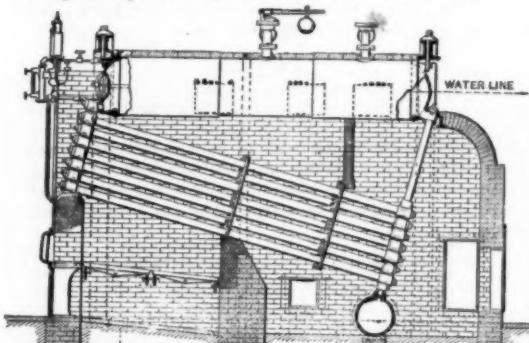
No. 14.—Each vertical row of tubes were expanded at each end into a continuous header cast of car-wheel metal, the headers having a sinuous form, so that they would lie close together and admit of a staggered position of the tubes in the furnace. Bolted joints were discarded, with the exception of those connecting the headers to the front and rear end of the drum, and the bottom of the rear headers to the mud-drum.

Even these joints were found objectionable, and were superseded in No. 15, two cuts of which are given in order to more thoroughly explain its construction.



No. 15.

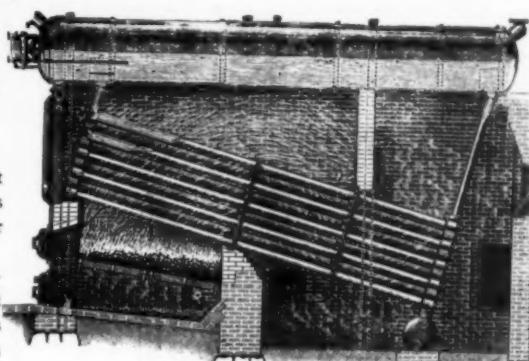
No. 15.—The general form of construction of No. 14 was adhered to, but short pieces of boiler tube were used as connections between the sections and the drum and mud-drum, their ends being expanded into adjacent parts with a Dudgeon expander, the same as the rest of the tubes.



No. 15a.

At this time an increased length was given to the tubes, bringing them up to a maximum of 18 feet, and it was found

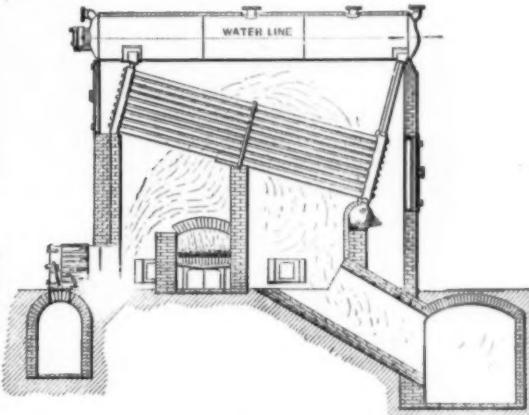
necessary to employ tubes of 4 inches in diameter, instead of the 3½-inch tube previously used. This boiler was also suspended entirely independent of the brick work by means of columns and girders, and the mutually deteriorating strains of the boiler and the brick work, where one was supported by the other, were avoided. A fancy cast iron front was used, and of this style a large number of horsepower have been built. It is still used where a fancy job is desired.



No. 16.

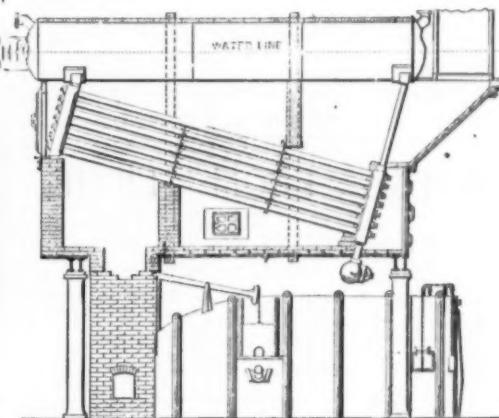
No. 16.—Flanged steel drum heads were substituted for those made of car-wheel metal; the drum is longer than the previous ones, giving greater steam and water capacity; wrought iron is substituted for cast in the fronts, to avoid cracking. This is their standard boiler for regular work.

Special settings and designs are built where special service is required.



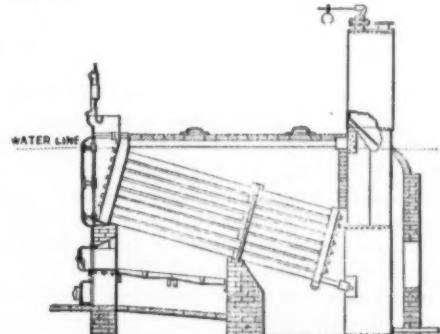
No. 17.

No. 17.—Shows the boiler as erected to fire with blast furnace gases.



No. 18.

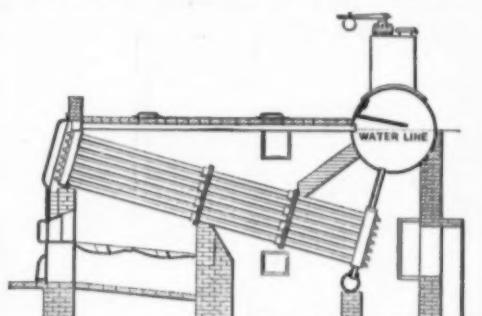
No. 18.—Erected to economize the waste heat from a puddling furnace.



No. 19.

Nos. 19 and 20.—For fire protection purposes the chief requirements are ability to raise steam quickly and hold the

pressure, economy of fuel and dryness of steam being of secondary consideration. To accomplish this a boiler with a large amount of grate and heating surface, containing a small quantity of water, is used—two very successful forms

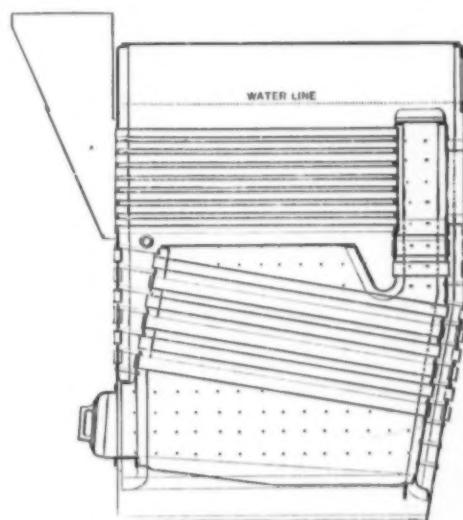


No. 20.

being shown in Nos. 19 and 20, both of which serve their special purpose admirably, but would not be either economical or desirable where steady power is required. Their small water and steam capacity demand close attention to regularity of feeding and firing, and the steam delivered is not sufficiently dry to secure the best engine economy.

## MARINE BOILERS.

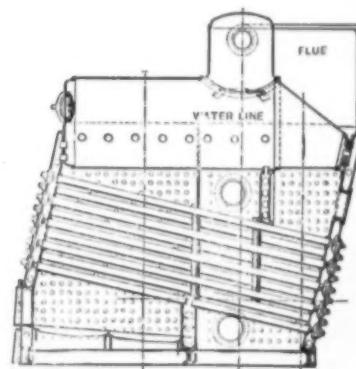
The ability to safely carry high pressures and place an equal amount of heating surface weighing 25 per cent. less into 20 per cent. less space than is required for the ordinary form of high pressure marine boilers, led to early experiments in this field.



No. 21.

No. 21.—A design similar to No. 5, the cylinder boiler being replaced by a return tubular, to increase the surface. A setting formed of stayed water sides riveted to and opening into the drum above was used.

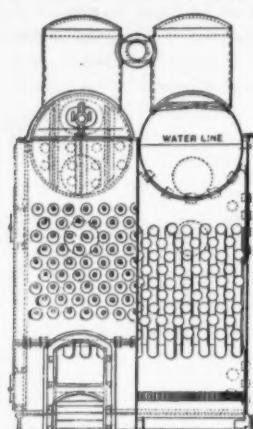
The surface added by the return tubes was not found desirable on account of the difficulties in cleaning it and their tendency to cause priming by keeping the whole disengaging surface in a state of ebullition.



No. 22.

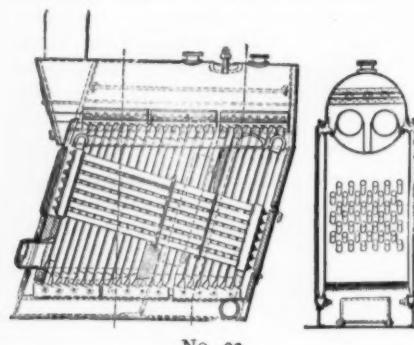
No. 22.—A larger boiler, similar in design to No. 21, having three passages of the gases across the tubes. The water sides formed in sections of water slabs, and all joints between the parts made by expanded tubes, as in No. 15. The rear end of the two cylinder boilers, forming the steam and water space, were tapered to allow the gases to pass off between them to the stack.

The stayed water sides were found to be a constant source of annoyance; the first cost was excessive; they



No. 22a.

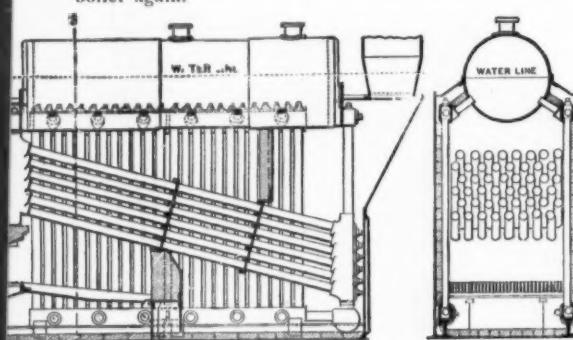
were difficult to keep clean, and were consequently abandoned in favor of walls made up of water tubes.



No. 23.

No. 23.—Similar to No. 22, but with water walls formed of nearly vertical tubes made up into sections by expanding their ends into headers, the sections being connected to each other and to the upper cylinders in turn by expanded tubes, the whole surrounded by a sheet iron jacket.

On account of the position of the hatch in the ship in which it was placed, the return flues through the drums were used to bring the gases to the forward end of the boiler again.

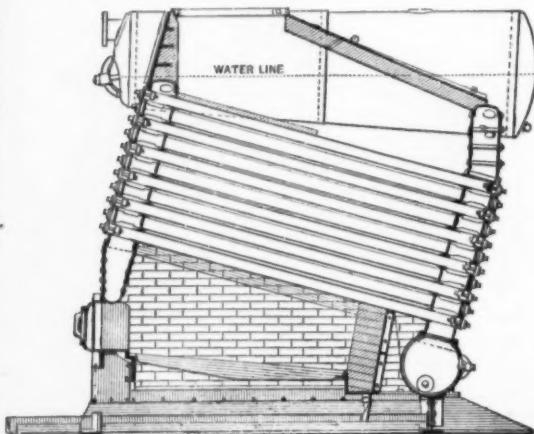


No. 24.

No. 24.—The side tubes were placed vertically and the return flues through the drum left out.

In Nos. 21, 22, 23 and 24 the delivery of the circulation from the side water walls and side tubes into the whole length of the drum on each side caused priming.

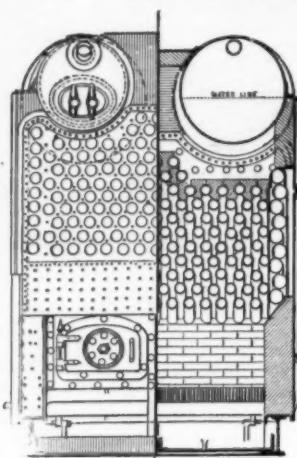
All attempts to gain economy by carrying the gases through the steam and water drum were abandoned, as it was found detrimental to the working and did not produce any better economy. The gases, after having traveled over a certain amount of water tube heating surface, were not at a sufficient temperature to warrant the use of either return flues or fire tubes.



No. 25.

No. 25.—This is the style of marine boiler finally settled upon by the Babcock & Wilcox Co. In this the side walls

are formed of a series of inclined tubes laid at the same angle as the main heating tubes. These tubes have eccentric ends of smaller diameter than the body of the tubes, to allow for metal in the tube sheets between each pair of tubes. The distance between the holes in the tube sheets are slightly less than the largest diameter of the tubes, so that by revolving them in their seats, one against the other, before expanding, a line-to-line contact is made the whole length between each two tubes, forming a practically tight water wall without stays, which is, in turn, enclosed by a sheet iron jacket caulked and made tight against air, gas and fire leaks, the small spaces not protected by the side tubes being filled in with special make of fire brick.



No. 25a.

The ends of the tubes which form the main heating surface of the boilers are made especially heavy, and are run through and expanded into both the front and rear sheets forming the water boxes, the end projecting to form the hand-hole seat for the cap which covers it. An opening is made through the top and bottom side of each tube between the front and rear sheets of the water box, to connect it with the water space. By this arrangement the use of the ordinary form of stays is done away with, the stays formed by the prolongation of the water tubes answering every purpose.

The results obtained from furnaces lined with fire brick were found to be better than where the fire was surrounded by heating surfaces.

No. 25 is designed for a tug. For large powers three passes of the gases across the tubes are used.

As to the practical working of the water-tube system as set forth above, we cannot do better than copy one paragraph from their latest circular:

"In 20 tests, during which over 3,000 tons of water were actually evaporated with a great variety of coals, the boilers exerted 34½ per cent. more than their rated power, and gave an average evaporation of 11,292 pounds of water from 212 degrees made into steam at atmospheric pressure for each pound of combustible. The average evaporation per hour per square foot of surface was 3.71 pounds of water, requiring but 8.08 square feet of heating surface per actual horse-power developed."—American Engineer.

## NOTES \* FROM \* DIXIE.

BY CHAS. H. WELLS.

The Newberry, S. C., Herald gets on the war path over an item of mine which says: "It is predicted that in three more years the Columbia & Greenville Railroad will be ruined and abandoned." To this item, which it copies, the Herald says: "Without knowing anything of the inner life of the road, we feel warranted in saying that this prediction was made so as to get up a corner against it; to alarm the stockholders, and thereby depreciate the value of the property and enforce its sale at ruinous figures." Now it is quite evident the editor who got up this comment knows as little about the object and aim of the MANUFACTURERS' RECORD as he does about the railroad question. In the first place had he taken the trouble to look into his file he would have seen that in "Dixie Notes" especial attention has always been paid to the R. & D. system of roads. The prediction, which the Herald man complains of, was made by a man who is far more interested in the Columbia & Greenville Road than any man in Newberry. In order to earn expenses and pay anything the Columbia & Greenville Road must earn five cents a mile per ton on freights; upon this the prediction was based. It was not the opinion of the writer, but the opinion of a railroad man who knows more in a minute about railroad matters than the Herald man will ever know.

\* \* \*

Just now the reshipping question is agitating Atlanta commercial circles. The merchants have selected the Louisville & Nashville, the Nashville & Chattanooga, the

Western & Atlantic, the Richmond & Danville, and the Georgia Pacific Railroads as the lines to be favored with their patronage. M. H. Smith, president of the Louisville & Nashville Railroad, stated that he could not guarantee anything further than to handle all shipments with promptness and dispatch. He said all communications addressed to him would receive prompt attention. The contents of the telegram left the impression upon the minds of the committee that the Louisville & Nashville under the circumstances could not give the relief desired. The committee had printed a circular, which was sent out to every merchant in Atlanta who had signed the agreement to stand by the action of the committee.

\* \* \*

The circular read as follows: "We, the merchants of Atlanta, whose interests have been trampled upon, whose energies and enterprises have been hampered and embarrassed, hereby bind and pledge ourselves as business men and citizens, who value the welfare and prosperity of our city, to strictly conform to such rules and regulations as the 'special committee on transportation' may adopt. And we further bind and pledge ourselves that we will patronize only such line or lines (when there is a choice) as said committee shall direct." This agreement has been signed by all the merchants in the city. When Mr. Virgil Powers, general commissioner of the Southern Railway & Steamship Association, was asked about the matter, he said: "There was no request in the communications sent to the association that needed an answer. The committee said what it was going to do, and the association decided to let it go ahead and carry out the plan that it had mapped out. In my opinion all of this matter will regulate itself in a short time, and things will return to their normal state." This looks as if there would be a fight in earnest.

\* \* \*

Henry T. Gatchell, formerly of Atlanta, has been appointed immigration agent of the Richmond & Danville Railroad. Mr. Gatchell was one of the Georgia supervisors of the census in 1880, with headquarters in Atlanta. In his new capacity he will make his headquarters at Atlanta and will at once assume the duties of the responsible office to which he has been appointed. His duties will be to encourage immigration from all points to the territory traversed by the road. Mr. Gatchell wrote some time ago an interesting little brochure setting forth the advantages of Western North Carolina as a sanitarium, giving comparisons of temperature and other useful information. The pamphlet had a wide circulation and brought many people to Asheville.

\* \* \*

An interesting war of rates between the East Tennessee, Virginia & Georgia and the Richmond & Danville Railroads has been in progress in Atlanta. It was known that the Grant funeral would attract a good many people from the Gate City to New York. Mr. B. W. Wrenn, of the East Tennessee, Virginia & Georgia, and Mr. Mercer Slaughter, of the Richmond & Danville, were in telegraphic correspondence for two days trying to fix upon a rate. Finally Mr. Slaughter telegraphed that he found it necessary to fix the rate at \$32.50 for the round trip, to which Mr. Wrenn replied that he found it necessary to fix the price at \$25. Next day the sale of tickets began, and when the Richmond & Danville people found that the East Tennessee folks were selling at \$25, they dropped to \$24. The East Tennessee, Virginia & Georgia immediately cut a much lower figure, and, of course, secured the bulk of the travel.

The Richmond & Danville stuck to \$24, but the East Tennessee, Virginia & Georgia got the Gate City Guards to go by their line, which put a big feather in their caps, as the "sojourner" boys were accompanied by many friends.

\* \* \*

North Carolina is a wonderful State! Among the minerals found in Cleveland country are iron, silver, gold, copper, tin, plumbago, corundum, tourmaline, garnet, amethyst, kaolin, and lastly and most important of all, mica, in the most wonderful profusion. But little attention as yet has been given to the mining interests of the county. The only obstacle in the way was the paramount one—a lack of capital. Mica mining has been carried on, however, since the war, with more or less profit. But until recently the veins that have been operated have not been sufficiently rich to justify hope that it would ever amount to much. Within the last month discoveries have been made which reveal the fact that in that county are some of the most valuable mica deposits in the world. Ten new mines have been uncovered recently, and one of these yields mica of wonderful size, the finest in the State, with one exception. The mica from this mine (owned by Mr. Samuel Putnam) is of the very best quality, and some of it squares 14x20 inches. There may be a fortune in this industry for the capitalists who strike while the iron is hot.

\* \* \*

In this same county the farmers make two crops on the same piece of land. After harvesting their wheat, they plant corn and rarely fail to gather a mature crop. There are only about ninety thousand acres of land in cultivation, and yet the value of the crop this year will reach the enormous aggregate of \$1,700,000; while the capital invested in agriculture amounts to only \$600,000. The staple crop stands about as follows:

Cotton.....	8,000,000 pounds.
Corn.....	400,000 bushels.
Wheat.....	250,000 "
Oats.....	100,000 "
Potatoes.....	75,000 "
Tobacco.....	300,000 pounds.

These calculations are carefully made from reliable estimates. I doubt whether any county in the State can make such a showing from as many acres in cultivation, and the amount of capital invested—indeed, I am convinced that the capital invested in agriculture in Cleveland county pays a greater return than in any other county in North Carolina.

## THE MARKETS.

OFFICE MANUFACTURERS' RECORD, / BALTIMORE, August 12, 1885. /

The assurance of abundant crops in the South is everywhere having a good effect upon business interests by imparting renewed confidence as to the future of trade and manufactures. From New Orleans, Galveston, and other points in the extreme South, where the cotton crop is nearly ready for picking, there are favorable reports of quite a change in business, merchants having commenced to make preparations for a heavy fall trade. In some lines of trade considerable improvement is also noticeable in this city, orders from the South coming in pretty freely. The Southern people generally are more hopeful regarding business than for some years, the enormous crops promising to stimulate every branch of trade and manufactures.

In the manufactured iron market there is considerable activity, but prices continue low and unprofitable. We quote as before, viz:

Ref. Bar Iron, 1 to 6x3/8 to 1.....	W. B.	1 1/4@ 1.8c
" 1 to 4 1/2x1 1/2 to 1.....	"	1 1/4@ 1.8c
" 3/4 to 2, round and square.....	"	1 1/4@ 1.8c
Hoop Iron, 1 1/2 wide and upward.....	"	2 1/4@ 2 1/2c
Band Iron, from 1 1/2 to 6 in. wide.....	"	2 1/4@ 2 1/2c
Horseshoe Iron.....	"	2 1/2@ 3 c
Norway Nail Rods.....	"	5@ 5 1/2c
Black Diamond Cast Steel.....	"	9@ 10 c
Machinery Steel.....	"	3 1/2@ 4 1/2c
Spring Steel.....	"	3 1/2@ 4 c
Common Horse Nails.....	"	8@ 9 c
Railroad Spikes, 5 1/2x9-16.....	"	2@ 2 1/2c
Perkins Horse Nails.....	W. keg.	33-75%
Mule Nails.....	"	34-75%

The demand for pig iron is very moderate, with market quiet at former prices, viz:

Baltimore Charcoal Wheel Iron (all Baltimore ore).....	"	38 00@29 00
Virginia C. B. Charcoal Wheel Iron.....	"	38 00@29 00
Anthracite, No. 1.....	"	39 00@30 00
" 2.....	"	17 00@18 00
" 3.....	"	15 00@16 00
Mottled and White.....	"	13 00@14 00

## HARDWARE.

Southern hardware dealers, while anticipating a heavy fall trade, have been very conservative so far, preferring to wait until crops were fully assured before laying in large stocks. The volume of business is only moderate as yet, though August trade, according to some, has been rather more satisfactory than for the corresponding time of last year.

Nails are dull, with prices about as last quoted—\$2.00@\$2.15, according to quality.

## Philadelphia Iron Market.

PHILADELPHIA, PA., Aug. 11, 1885.

There is a good deal of quiet inquiry and business in pig iron, notwithstanding all the unfavorable talk of extreme dullness. One broker sold 1,000 tons of No. 1 and No. 2 foundry at good prices, viz: \$15.75 for No. 2, and \$17.50 for No. 1. Very few consumers have stocks on hand, and hence there is now, in view of the nearness of September, some little stir for iron. The makers of special brands contracted for the delivery of about five thousand tons. The inquiry is particularly directed to forge iron, and the asking prices to-day are \$14.50 for Virginia; \$15@\$16 for good Pennsylvania irons. The outlook is better for business. In charcoal and Anthracite blooms very little business is reported, but the makers of muck bars manage to keep going at \$27 for good and \$26.50 for common. The merchant bar mills have not increased their orders. Common is dull at \$1.35@\$1.45. Medium at \$1.50@\$1.60, and refined at \$1.70@\$1.80. The weather is more favorable to making, and the output is considerably larger than in July. The Eastern nail makers have been selling nails for shipment West, owing to the idleness there. The plate and sheet mills East cannot be said to be making much headway, although running as usual. The bridge iron makers are picking up a good deal of business, and prices are firm. The rail makers are in session at Long Branch to see if anything can be done to restrict production. Old iron rails are \$17; steel \$15@\$16. Scrap is plenty and very little selling.

## Cincinnati Iron Market Report

Specially reported by ROGERS, BROWN &amp; CO., Pig Iron Commission.

CINCINNATI, Aug. 10, 1885.

The market has fully held its own during the week and in some particulars improved. Demand is more general through the trade than it was last week, though there are not so many large transactions to note. Three sales of 1,000 tons each Southern mill iron were closed in this market since last report. Foundries as a rule report a better trade. Heavy shipments are going forward from Ohio and Southern furnaces, and stocks are lighter than in July. We quote for cash, f. o. b. Cincinnati:

## HOT-BLAST FOUNDRY.

Ohio and Southern Strong Coke No. 1.....	\$16 00@17 00
" " " No. 2.....	15 00@16 00
Ohio Soft Stonecoal, No. 1.....	16 50@17 00
" " " No. 2.....	16 00@17 00
Mahoning and Shenango Valley Coke, No. 1.....	16 50@17 00

## CHARCOAL IRON.

Hanging Rock, No. 1.....	\$19 00@20 00
" " " No. 2.....	17 00@19 00
Tennessee and Alabama, No. 1.....	17 50@18 50
" " " No. 2.....	16 50@17 50

## FORGE.

Strong Neutral Coke.....	\$13 50@—
Mottled " " .....	12 75@—
Cold Short.....	13 00@—
S. CAR WHEEL AND MALLEABLE.	
Southern Car-Wheel Iron.....	22 00@24 00
Hanging Rock C. B. " W. B. ....	25 00@27 00
Lake Superior Malleable.....	22 00@25 00

Specially reported by E. L. HARPER &amp; CO.

CINCINNATI, Aug. 10, 1885.

There is a general feeling of greater confidence in values, and the market closes with more stability than has characterized it for many months. Foundrymen who have been quiet are enquiring and purchasing again. Numerous large orders have been placed the past week, and many furnaces being relieved of their surplus stocks are more independent as to sales for forward deliveries. Manufacturers, especially of sheet, plate and tank iron, are having a better business at slightly advanced prices. The wheels of the iron trade are out of the "rut," and though moving slowly, are on a solid road, which seems on the turn to a rising incline. We quote as prices current, cash f. o. b. cars or wharf here:

## FOUNDRY. CASH.

Hanging Rock Charcoal, No. 1.....	\$19 00@20 00
" " " No. 2.....	17 50@18 50
Southern Charcoal, No. 1.....	17 00@17 00
" " " No. 2.....	16 00@16 00
Strong Neutral Coke, No. 1.....	15 50@16 00
" " " No. 2.....	14 00@15 00
American Scotch, No. 1.....	15 50@16 00

## GRAY FORGE.

Neutral Coke.....	13 00@13 50
Cold Short.....	13 00@13 50

## CAR WHEEL AND MALLEABLE.

Hanging Rock, strictly cold blast.....	25 00@25 50
Hanging Rock, strictly warm blast.....	21 00@21 50
" " " " Cranberry," N. Carolina Warm Blast.....	22 50@22 75
Amherst and Virginia Warm Blast.....	19 00@20 00
Lake Superior Charcoal, all grades.....	19 00@20 00

## Louisville Iron Market.

Specially reported by G. H. HULL &amp; CO., Commission Merchants for the sale of Hot and Cold Blast Pig Iron.

LOUISVILLE, KY., Aug. 10, 1885.

The market shows some improvement this week in price, but sales are not as large. Some large clearance sales were made the latter part of last month and furnaces have advanced in price on some grades 50 cents per ton. The general demand is improved. Both buyers and sellers seem to be looking for a little higher figures. We quote for cash in round lots as below:

## PIG IRON.

Southern Coke, No. 1 Foundry.....	\$16 00@17 00
" " " " Charc'ly, No. 1 Foundry.....	15 00@15 75
" " " " Charc'ly, No. 2 Foundry.....	13 50@14 50
" " " " Charc'ly, No. 3 Foundry.....	16 00@17 00
Southern Charcoal, No. 1 Foundry.....	16 00@17 00
Silver Gray, different grades.....	14 00@15 00
Southern Coke, No. 1 Mill, Neutral.....	13 00@13 50
" " " " Cold Short.....	12 50@13 25
Southern Charcoal, No. 1 Mill.....	16 00@16 50
White and Mottled, different brands.....	13 00@12 00
Southern Car Wheel, standard brands.....	23 00@24 00
" " " " other brands.....	18 00@20 00
Hanging Rock Cold Blast.....	23 00@24 00
" " " " Warm.....	18 00@20 00

Specially reported by W. B. BELKNAP &amp; CO., Nails, Wire, Iron, Hardware, Carriage and Wagon Goods.

LOUISVILLE, KY., Aug. 10, 1885.

The week has passed without any startling changes; nevertheless with its small contributions towards a better state of affairs. Stocks of iron and nails are steadily decreasing at no insignificant rate, judging

from the amended lists which certain of the manufacturers issue at short intervals.

The increased demand already noted continues, but the only items which have felt its beneficial influence to any noteworthy extent are sheet iron and tire bolts. An advance of \$2 per ton is firmly held on the former and readily obtained for the asking, while the tire bolts, by the general consent of the manufacturers, have been put up to per cent.

Bar Iron.—Some of the Southern mills claim to have their order books well filled for 60 days ahead. The mills which usually supply this market with both bar and sheet are mainly idle.

Sheet Iron.—Owing to the closing down of such mills as Whitaker, Etna, Standard, and some of the valley mills whose product finds its way here, the supply of light gauges has been almost entirely cut off. Stocks at these mills have been cleaned out by prompt buyers, and a strong advance has been well established.

Nails.—This prominent article of trade grows daily in interest. Stocks in the hands of jobbers and mills are much broken. Many of the leading sizes have been culled out altogether. 8s, 10s and 20s have almost disappeared.

Wire.—This promised Chicago wire pool has not shown any further signs of materialization, and those who expected to plunge in its waters and be healed must possess their souls in patience probably until an angel's touch in the shape of another Iowa decision shall come to impart the necessary virtue.

General and copious rains have broken up the severe drought and heat, much to the relief of country and city as well.

## St. Louis Iron Market.

Specially reported by W. H. SHIELDS, Pig Iron and Iron Ore, No. 318 Olive Street.

ST. LOUIS, Aug. 10, 1885.

The mills in this district are starting up and a better feeling exists all round. Though prices show no quotable advance, they are much firmer.

## HOT-BLAST CHARCOAL.

Missouri.....	\$14 00@16 50
Southern.....	17 00@18 50
Ohio.....	—@—

## COKE AND COAL.

Missouri.....	14 00@16 00
Southern.....	15 00@17 00
American Scotch.....	17 00@18 00

## MILL IRONS.

Missouri.....	14 00@14 50
Southern.....	13 50@14 00

## CAR-WHEEL AND MALLEABLE IRON.

Southern.....	20 00@24 00
Lake Superior.....	20 00@23 00

## MISCELLANEOUS.

Old Rails.....	15 00@17 00
Old Wheels.....	14 00@15 00
Connellsville Coke, East St. Louis.....	60 5 30
Wrought Scrap.....	—@—
Cast Scrap.....	—@—

## IRON, PAR.

## CHATTANOOGA IRON MARKET.

Specially reported by LOWE &amp; TUCKER, Brokers and Commission.

CHATTANOOGA, TENN., Aug. 10, 1885.

Business has been moving in a quiet and steady groove, with an upward tendency in volume and in some cases a slight advance in prices. Most of the furnaces are clearing out their yards, and stocks are now getting very low. There is a decided scarcity of No. 1 foundry grades, and round lots are hard to get. Prospects for extraordinary

crops increase and are now considered about out of danger. We make no change in quotations:

No. 1 Foundry.....	\$14 50 @15 50

<tbl\_r cells="2" ix

## JARVIS PATENT FURNACE FOR SETTING STEAM BOILERS.



Economy of Fuel, with increased capacity of Steam Power. Like the **Siemens Process of Making Steel**, it utilizes the waste gases with hot air on top of the fire. Will burn all kinds of waste fuel without a blast, including Slack Coal, Sawdust, Logwood Chips, &c. Send for Circulars.

**Jarvis Engineering Co.,**  
A. F. UPTON, Treas. and Gen'l Manager,  
61 Oliver St., BOSTON, MASS.  
JOSHUA C. COE, Agent for Maryland and Virginia,  
O'Donald's Wharf, Baltimore, Md.

**SOUTHERN REFERENCES:**  
Eagle & Phenix Mfg. Company, Columbus, Ga.  
Anniston Mfg. Co., Anniston Ala.  
J. P. King Mfg. Co., Augusta, Ga.  
Rose Mining Co., Charleston, S. C.  
Maryland Pavement Co., Baltimore, Md.  
Brush Electric Light Co., Baltimore, Md.  
Ettrick, Mattoon, and Battersby Mfg. Co's.,  
Petersburg, Va.  
Basin Fertilizing Co., Baltimore, Md.  
Tanner & Delaney Engine Co., Richmond, Va.  
Sibley Mill, Augusta, Ga.

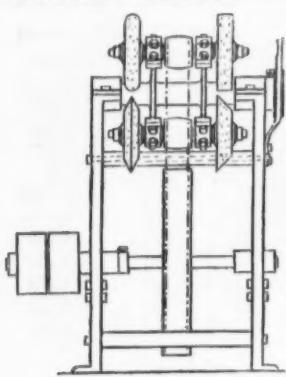
Graniteville Mfg. Co., Graniteville, S. C.  
Charleston Bagging Co., Charleston, S. C.  
P. H. Mayo Bros., Richmond, Va.  
Phosphate Mining Co., Beaufort, S. C.  
Brush Swan Electric Light Co., Norfolk, Va.  
Columbus Ice & Refrigerator Co., Columbus, Ga.  
Lenoir Manufacturing Co., Lenoir, East Tennessee.  
Vanceleuse Mill, Graniteville, S. C.

## PHOSPHOR-BRONZE



The celebrated alloys in Wire, Rods, Sheets, Bolts,  
Wire Ropes, Wire Cloth, Castings, Ingots, etc.  
Pamphlets and particulars on application to

**THE PHOSPHOR-BRONZE SMELTING CO., Limited.**  
No. 512 ARCH STREET, PHILADELPHIA, PA.  
Owners of the U. S. Phosphor-Bronze Patents.  
Sole Manufacturers of Phosphor-Bronze in the United States.



BLAISDELL'S  
Eight Wheel Emery Machine,  
FOR GRINDING  
ALL KINDS OF IRREGULAR CUTTERS.



GOODELL & WATERS.

Manufacturers of all kinds of WOOD-WORKING MACHINERY, Warerooms, 115½ Liberty Street, New York. J. H. BLAISDELL, Manager.

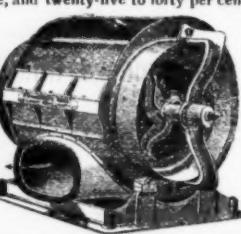
## THE MACKENZIE PATENT CUPOLA AND BLOWER

Send for Circular to SMITH & SAYRE MFG. CO., Proprietors, 245 Broadway, N. Y.



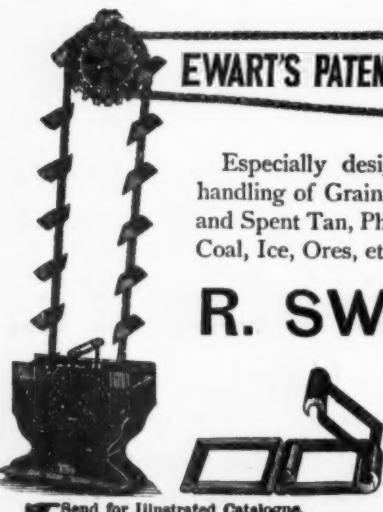
This Cupola has made a great revolution in melting Iron. It differs from all others in having a **CONTINUOUS TUYERE**, or in other words, the blast enters the fuel at all points. Above one ton capacity per hour, they are made oval in form. This brings the blast to the center of the furnace with the least resistance and smallest possible amount of power, and in combination with the continuous Tuyere causes complete diffusion of the air throughout the furnace, and uniform temperature, melting ten or fifteen tons an hour with the pressure of blast required to melt two or three tons in an ordinary Cupola. It also enables us to save very largely in time and fuel, the experience of our customers showing a gain of twenty-five to fifty per cent. in time, and twenty-five to forty per cent. fuel over the ordinary Cupola, and a **BETTER QUALITY OF CASTING**, especially in light work. This is due to the thorough diffusion of the air and more perfect combustion, extracting less carbon from the iron, making a softer and tougher casting.

We manufacture these Cupolas of any desired capacity, numbered from 1 to 20, inclusive, the numbers indicating the melting capacities in TONS PER HOUR—No. 1, one ton; No. 2, two tons; No. 3, three tons per hour, and so on up to 15, or 20 tons. We have improved the construction of these Cupolas in every way, have increased their strength and durability, and sought to make them as convenient for working and repairs as our own and the experience of our customers could suggest.



## EWART'S PATENT CHAIN BELTING

Especially designed for the rapid and economical handling of Grain, Malt, Saw Dust, Coke and Clay, Dry and Spent Tan, Phosphates and Chemicals, Broken Stone, Coal, Ice, Ores, etc.



**R. SWORMSTEDT,**  
48 S. FREDERICK ST.

Sole Agent for Maryland, Virginia,  
North Carolina, South Carolina and  
Georgia.

Send for Illustrated Catalogue.

Please mention this paper.

## MOOPES & TOWNSEND,

MANUFACTURERS,

PHILADELPHIA, PA.



### KEYSTONE BOILER RIVETS.

Cold-Punched Square and Hexagon Nuts.

Finished and Case-Hardened Steel Hexagon Nuts.

BRIDGE RODS AND RIVETS.

BUILDERS' IRON WORK.

TANK AND COOPERS' RIVETS.

## Keep Your Steam Boilers Clean!

"An Ounce of Prevention Worth a Pound of Cure."

SAVE YOUR FUEL!

## Warner's Purifier AND Heater

[PATENTED JULY 21, 1885.]

The best way to **CURE** your steam boilers of incrustation and sedimentary deposit is to **keep out** of the boiler that which causes incrustation and sediment.

The chief ingredients causing sedimentary deposits and incrustation are organic matter, carbonate of lime, sulphate of lime, carbonate of magnesia, sulphate or sulphur of iron, and in salt water common salt.

The **WARNER PURIFIER AND HEATER** is the only machine which precipitates all impurities held in suspension, heats the water to the boiling point under full boiler pressure, separates and precipitates the mineral salts held in solution **before** the water reaches the boiler, and then injects the water **thus purified** into the boiler **boiling hot**. It is an automatic machine, entirely **outside** of the boiler, requiring absolutely no attention from the engineer except to blow off the accumulation of deposit from the bottom of the machine which acts as a mud-drum. All this is accomplished without the use of chemicals, by a purely mechanical process, regulated by the principles of natural philosophy.

No more "shutting down" of work to clean boilers—the machine does it all every day without interfering with the work, and by removing scale and preventing its formation, and heating the water to the boiling point **saves a large percentage of fuel**.

The **WARNER HEATER AND PURIFIER COMPANY** is now ready to furnish these machines on demand at very reasonable figures.

WASHINGTON, D. C., May 23, 1885.

(Signed) JOHN H. WILKERSON,

Inspector of Steam Boilers for District of Columbia, 220 7th Street, S. E.

"HARRIS HOUSE," COR. PENNSYLVANIA AVENUE AND E STREET, N. W.

WASHINGTON, D. C., June 23, 1885.

This is to certify that one of "Warner's Purifiers and Heaters of Feed Water" has been in use on one of the boilers of the Harris House, in this city, for three months, and has proved a perfect success. The boiler upon which the machine was placed was at the time covered with a heavy scale composed of animal and vegetable matter, lime, &c., which, by the use of this machine, has been entirely removed, the boiler being now as clean as when it came from the boiler-maker. This has been entirely accomplished, without the use of chemicals, by the injection of pure water through the "Purifier and Heater." This machine injects the water into the boiler heated to the boiling point under full boiler pressure, and by this means, together with the removal of the scale, results in a large saving of fuel. It is also invaluable in the purification of the water for laundry purposes. The machine is self-acting, and prevents the necessity of "shutting down" in order to blow out the boiler, as the impurities are all concentrated in the bottom of the machine, and can be blown out through the machine as often during the day as the engineer may deem advisable without interfering with the working of the boiler. I am convinced that its use will prolong the life of all boilers upon which it may be placed, save a large percentage of fuel, decrease the danger of explosion, purify the water for all purposes, and give general satisfaction. I confidently commend it to all hotels using steam and to owners of steam boilers generally as a much needed improvement that will do the work claimed for it thoroughly.

(Signed) JOHN H. HARRIS, Proprietor of Harris House, Washington, D. C.

WASHINGTON "POST" BUILDING, WASHINGTON, D. C., June 23, 1885.

This is to certify that one of "Warner's Purifiers and Heaters of Feed Water" was placed upon the boiler of the Post Building about 60 days ago as a test. At that time the boiler was covered with a heavy scale of animal and vegetable matter, lime, &c., which it was impossible to prevent. By the use of this Purifier and Heater, which injects the water into the boiler free from all impurities and heated to the boiling point, the scale has been removed and the consumption of coal reduced. The machine works itself and is invaluable as a purifier of water to all branches of business requiring pure water, such as hotels, laundries, &c., and a much needed adjunct to all steam boilers, prolonging their life, decreasing the danger of explosion, and effecting a large reduction in the consumption of fuel. I confidently commend Warner's Purifier and Heater to all owners of steam boilers, being confident that their interests will be subserved by its use.

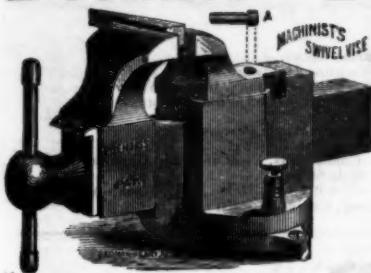
(Signed) J. FRANK MC GUIRE, Superintendent and Engineer Post Building.

ADDRESS,

**Hon. JOHN F. DEZENDORF,**  
Room No. 35 Corcoran Building,  
WASHINGTON, D. C.—

**ADAMS & PRICE MACHINERY CO.**  
SOLE MANUFACTURERS OF THE  
NEW AND IMPROVED PRINCIPLE  
ADAMS PATENT AUTOMATIC  
BOLT & NUT THREADING MACHINES  
35-41 INDIANA ST. CHICAGO.  
SEND FOR ILLUSTRATED & DESCRIPTIVE CATALOGUE.

# Prentiss' & Patent & Vises.



Adjustable Jaw.

Stationary or Pat. Swivel Bottoms

CANNOT GET OUT OF ORDER.

Cheapest and Best Vises for Railroad Shops, Machinists, Manufacturers, Mechanics, &amp;c.



For Sale by the Trade.

"Peerless" (Swivel Jaw) Pipe Grip.  
Every Part Interchangeable.  
CAN BE USED ON ANY VISE.

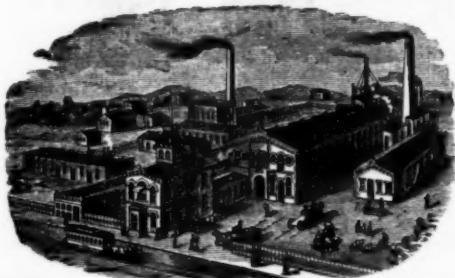
PRENTISS VISE CO., 23 Dey Street, NEW YORK, Sole Proprietors.

# Ludlow Valve Manfg. Co.

Office and Works:

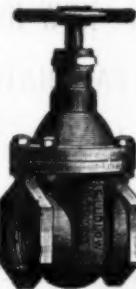
938 to 954 River Street, and 67 to 83 Vail Avenue,

—TROY, N. Y.—

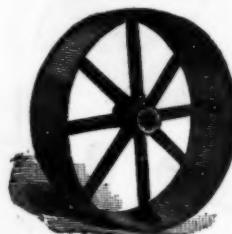


## VALVES

Double and Single Gate,  $\frac{1}{2}$  inch to 48 inch, outside and inside Screws, Indicators, etc., for Gas, Water, Steam, Oil.  
Send for Circular.



Also Fire Hydrants, Yard and Wash Hydrants, Check and Foot Valves.



THE MEDART PATENT

## WROUGHT • RIM • PULLEY.

THE LIGHTEST, STRONGEST,  
BEST BALANCED, AND CHEAPEST  
IN THE WORLD

Whole pulleys from 9 inches to 120 inches diameter. Split pulleys from 12 inches to 120 inches diameter.

All widths of face up to 36 inches, crowning or straight, with single, double or triple sets of arms. Also tight and loose pulleys. Absolute

Satisfaction Guaranteed. SHAFTING, HANGERS, COUPLINGS, &amp;c.

MEDART PATENT PULLEY CO.,

1906 TO 1214 N. MAIN STREET, ST. LOUIS, MO.

STORES: 99 &amp; 101 W. Second St., Cincinnati. 24 &amp; 26 S. Canal St., Chicago.

THE RUTHENBURG FIRE EXTINGUISHING & ENGINEERING CO. U. S. A. —

CONTRACTORS FOR THE COMPLETE EQUIPMENT OF FACTORIES & MILLS OF ALL KINDS AGAINST FIRE.

ABUNDANT WATER SUPPLY. NO FREEZING. INSTANT ALARM. LOW INSURANCE.

## MACHINE • MOLDED Cast Pulley Castings

Machine-molded Pulleys save from 10 to 20 per cent. in turning, balancing, and also in weight; and, being perfectly proportioned, are far stronger than hand-made PULLEYS. We have a capacity of 150 pulley castings a day, ranging from 6 inch diameter, 11 inch face, to 36 inch diameter, 24 inch face. We also keep a large assortment of Journal-box Castings, Face Couplings, Set Collars, Boiler Fronts, etc., on hand. Send for Price-Lists.

Standard Foundry Comp'y,  
1240 to 1248 Collins Street, ST. LOUIS, MO.

# WM. SELLERS & CO.

PHILADELPHIA.

IRON AND STEEL-WORKING MACHINE TOOLS

For Railways, Machine Shops and Rolling Mills.

—ALSO—

Shafting, Pulleys, Hangers, Couplings, &amp;c.

Were the first parties to design and introduce the BALL and SOCKET HANGERS, ADJUSTABLE COUPLINGS, and the system of selling Shafts Pulleys and Couplings by the piece. Will be pleased at any time to give estimates for work in place, in mills or at our works. Price-Lists and other information given when requested.

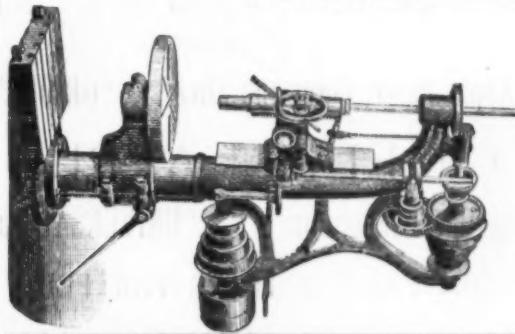
# POND MACHINE TOOL CO.

SUCCESORS TO DAVID W. POND.

MANUFACTURERS OF

Iron-Working  
Machinery,  
WORCESTER, MASS.

Special Railroad Tools, Lathes, Planers, Upright and Radial Drills, Boring Mills, Gear Cutters, Milling Machines, Patent Shafting Lathes, Hand Punches and Shears, Planer Chucks. Special machinery in great variety. Estimates furnished. Send for catalogue.



## BACON

Winding Engines,  
Furnace Hoists,  
Mine Hoists.

(With or Without Boilers.)

"Mining PLANTS," Concentrating Works and Dredging Machinery Furnished Complete.

## COPELAND & BACON

85 Liberty Street, New York.

FAIRBANKS & CO., Agts., Philadelphia, Pa., Pittsburgh, Pa., Buffalo, N. Y.

REFERENCES:—Croton Magnetic Iron Mines, Brewster's, N. Y. Crown Point Iron Co., Crown Point, N. Y. Belvidere Iron Co., 52 Broadway, New York. Sea Island Chemical Co., Beaufort, S. C.

## The Babcock & Wilcox Water Tube Boilers.

BRANCH OFFICES:

707 Market St., St. Louis.

64 S. Canal St., Chicago.

561 Mission St., San Francisco.

San Ignacio, No. 50, Havana, Cuba.

107 Hope Street, Glasgow, Scotland.



Manufactured by the BABCOCK &amp; WILCOX CO., 30 Cortlandt Street, NEW YORK.

## THE MIDVALE STEEL CO. TIRES and AXLES

OF EVERY DESCRIPTION.



CRUCIBLE AND OPEN HEARTH STEEL.

Works &amp; Main Office:

Nictown, Philadelphia, Pa.

BRANCH OFFICE:

333 Walnut St., Philadelphia, Pa.

SPRING AND GUN STEEL.

# SAM'L. G. B. COOK & CO., HARDWARE

MANUFACTURERS' AGENTS  
33, 35, 37 and 39 German St., BALTIMORE, MD.

AGENTS FOR

Buckthorn Fence Co.—Buckthorn Wire.  
American Screw Co.—Screws, Rivets, Bolts, etc.  
Branford Lock Works.  
Boss Molasses Gates.  
Carr & Crawley.—Shelf and Carriage Hardware.  
Lancaster Bolt Co.—Eagle Carriage Bolts.  
Lawson & Brenizer.—Hay and Manure Forks.  
Meriden Britannia Co.—Rogers Bros.' As Plated Goods.  
Meriden Britannia Co.—Rogers Bros.' As Plated Goods.  
Northwestern Horse Nail Co.  
Nicholson File Co.  
Naugatuck Cutlery Co.  
Globe Horse Nail Co.

Cowles Hardware Co.—Geers, Butts, Screw Drivers, etc.  
H. Chapin's Sons.—Rules, Levels, Gauges, etc.  
Clark Bros. & Co.—Bolts.  
Essex Horse Nails.  
A. Field & Sons.—Tacks, Finishing Nails, etc.  
H. C. Hart Manufacturing Co.—Spring Butts, Screen Frames, etc.  
Hubbard, Bissell & Co.—Lippincott Axes, Saws, Shovels and Hoes.  
Holroyd & Co.—Stocks and Dies.  
Henry W. Kipp.—Hammers.  
Klein, Logan & Co.—Picks, Mattocks, Sledges, etc.  
Kimball's Patent Shovels and Spades.  
Lockwood Steel Hoes.

Peck Bros. & Co.—Brass Cocks.  
Payson Mfg. Co.—Building Hardware.  
Patton Mfg. Co.—Enamelled and Tin'd Hollow Ware.  
Roy & Co.—Strap and T Hinges and Wrought Butts.  
Saranac Horse Nail Co.  
Scott Mfg. Co.—Peach and Apple Parers, etc.  
George M. Scott.—Blacksmith Bellows.  
Wilson's Mfg. Co.—Coffee Mills, Vises and Ship Hardware.  
Walker's Horse and Mule Shoes.  
International and Pimlico Brand of Horse Nails, Foreign and Domestic Hardware, Cutlery, Chains, Pistols, etc.

## Scott's Rotary Knife Peach Parer

THE ONLY PEACH PARER, THE BEST APPLE PARER,  
MADE IN TWO SIZES: "FAMILY" AND "MAMMOTH."

—ALSO—

"IMPROVED VICTOR" Apple Parer, Corer and Slicer. "ORIOLE" Apple Parer, Corer and Slicer.

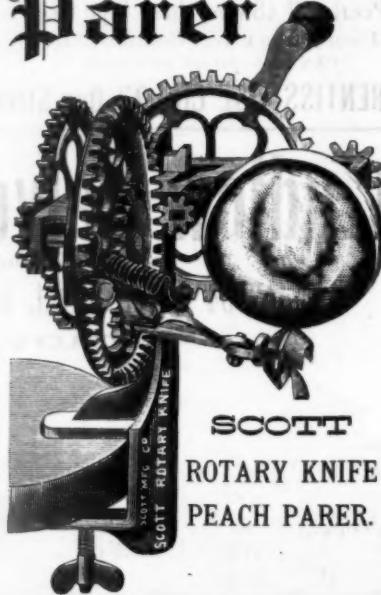
### GOLD MEDAL APPLE PARER.

PHILIP'S Fruit and Vegetable Evaporator. "UNIVERSAL" and "NEW IDEA" Can Openers.

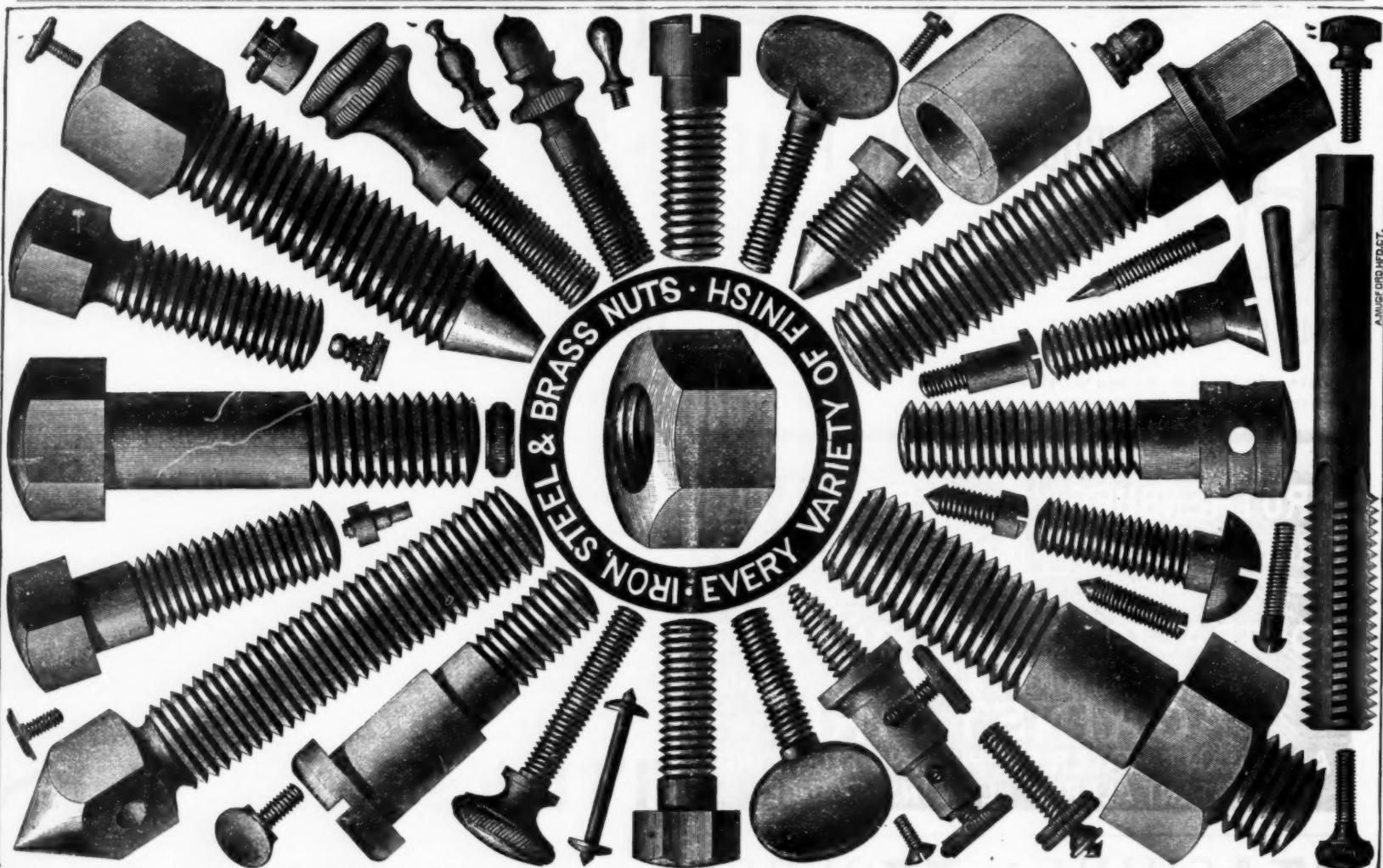
PATENT IRON FRAMED TRAYS FOR FRUIT EVAPORATORS.

IMPROVED 1884 HOPPER CHERRY SEEDER.

SCOTT MANUFACTURING CO., Baltimore, Md.



SCOTT  
ROTARY KNIFE  
PEACH PARER.



The Hartford Machine Screw Company, Hartford, Conn.

MANUFACTURERS OF

Hexagon, Square, Round or Fillister Head Cap Screws, Oval Point and Cupped Point Set Screws, Collar Screws, Hanger Screws, Stud Bolts, Studs and Rolls.

Sewing Machine Screws, Gun Screws, Clock Screws and Trimmings, Piano Screws and Trimmings, Shear, Thumb and Watch Screws, Metal Dowel Pins for Pattern Work, Taper and Straight Pins of all Sizes. Taps and Reamers to match. Telegraph, Electrical and Optical Work. All kinds of Fancy Turned Metal Work. Many of the above varieties we carry in stock.

Small Screw Tools a Specialty.

The attention of Model Makers, Machine Builders and Buyers of Machine Screws is called to the fact that we carry in stock a great variety of Milled Machine Screws, including all Standard Sizes, with Taps to match.

By Referring to our Stock, much Time and Expense may be saved. PRICES Reasonable. Send for Lists.

Cheap Rotary Pumps for Supplying Machine Tools with Oil, Soda Water, &c.

## → HARDWARE. ←

## Baltimore WHOLESALE Prices.

ANVILS.  
Eagle and Vulcan..... \$1. lb. 10 c. dis 50%  
Wright's..... 90%  
Armitage's Mouse Hole..... 90%  
Trenton..... 10%  
Wilkinson's..... 10%  
AUGERS AND BITS.

Corn. Valley Mfg. Co. .... dis 60&10%  
Douglass Mfg. Co. .... from list of  
Ives..... Jan. 7, 1886  
Cook's Douglas Mfg. Co. .... dis 40&10%  
Griswold..... 50%  
Patent Solid Head..... dis 25%  
Russell Jennings' Auger, Dowell, Machine-  
Dowel and Hand Rail Bits..... dis 10&10%  
Ives' " Jennings" Bits..... dis 40&10%  
Expansive Bits, Clark's small, \$18; large, 26, dis 25%  
Expansive Bits, Ives'..... \$20&20, dis 25%  
Expansive Bits Blake's..... \$20, dis 40%  
Hollow Augers, Ives'..... dis 25%  
Hollow Augers, Douglass'..... dis 25%  
Hol. Aug., Bonney's Adjust., \$10 doz \$48, dis 25%  
Hol. Aug., Stearns' Adjust., \$10 doz \$48, dis 25%  
Hol. Aug., Ives' Expansive, each \$4.50, dis 30%  
Hol. Aug., Universal Expansive, each \$4.50, dis 25%  
Wood's.....  
Gimlet Bits..... \$7.50 per gross, dis 50%  
Gimlet Bits, Diamond..... \$10 doz \$1.25, dis 40%  
Double Cut Gimlet Bits, Shephardson's..... dis 40%  
Double Cut Gimlet Bits, Douglass'..... dis 35%  
Double Cut Gimlet Bits, Ives'..... dis 50%  
Morse's Bit Stock Drill..... dis 25%  
L'Hommedieu's Ship Augers..... dis 15%  
AWL HAFTS.

Sewing Brass Ferrule..... \$3.50 per gross—dis 40&10%  
Patent Sewing, Short..... \$10 per gross—dis 40&10%  
Patent Sewing, Long..... \$1.20 per doz. net  
Patent Peg, Plain Top..... \$10 per gross—dis 40&10%  
Patent Peg, Leather Top..... \$12 per gross—dis 40&10%  
AWLS, BRAID SKTS, &c.

Awls, Sewing, Common..... 75c. to \$1  
Awls, Shouldered Peg..... 75c. to \$1  
Awls, Patent Peg..... 50c. to \$1.50  
Awls, Shouldered Brad, \$1 gross—dis 25%  
Awls, Handled Brad, \$7 per gross—dis 25%  
Brad Sets, Aiken's..... \$7 per gross—dis 12—dis 45&10%  
Brad Sets, No. 42, \$10.50; No. 43, \$12.50, dis 70%  
Brad Sets, Stanley's Exc., No. 1, \$9.60, dis 30&10%  
Brad Sets, Stanley's Exc., No. 2, \$4.80, dis 30&10%  
Brad Sets, Stanley's Exc., No. 3, \$7.80, dis 30&10%  
AXES.

Collins & Co. .... \$7.25; beveled, \$7.75  
Cohoes Mfg. Co. .... \$7.25; beveled, \$7.75  
Lippincott or Mann's.....  
Single Bit, 4% to 5% and under..... \$1 doz. \$6.50 net  
Single Bit, 4% to 6 and over..... \$1 doz. \$7.00 net  
Single Bit, beveled..... 50c. doz. advance  
Double Bit, 4% to 5% and under..... \$1 doz. \$12.00 net  
Double Bit, 4% to 6 and over..... \$1 doz. \$13.00 net  
Double Bit, beveled..... \$1.00 doz. dis 25%  
Second quality Axes..... 50cts. less than above  
AXLES.

Sheldon & Co., iron..... 55% off  
" " " steel..... 55% off  
AXLE GREASE—Frasers..... \$1. lb. 6c.

BALANCES.

Spring Balances..... dis 40&10%

## BELLS.

Hand, Light Brass..... dis 75 to 10%  
Hand, White Metal..... dis 60%  
Hand, Silver Chime..... dis 20&10%  
Hand, Glob. (Cone's Patent)..... dis 25&10%  
Gong, Abbe's..... dis 20&10%  
Gong, Yankee..... dis 30&10%  
Gong, Barton's..... dis 30&10%  
Leon, Reading..... dis 25&10%  
Pull, Brook's..... dis 50&10%  
Crank, Taylor's..... dis 25&10%  
Lever, Sargent's..... dis 55&10%  
Bloomfield..... dis 25%  
Lever, R. & E. M. Co's..... dis 45&10%  
Call..... dis 25%  
Cow, Common Wrought..... dis 55&10%  
Cow, Western, Sargent's List..... dis 55&10%  
Cow, Moore's or Dodge's, Genuine Ky., new list: Nos. o 1 1/2 a 3 5 5 6 Hog (dis. 70  
\$12 \$10 \$9 \$8 \$7 \$4 \$3.50 \$2.50 \$5) { dis 40%  
Cow, Texas "Star" ..... dis 40%  
BELLOWS.

Blacksmith's Common..... dis 50%  
Molder's..... dis 25%  
Hand Bellows..... dis 25%  
BLIND FASTENERS.

Francis..... dis 20%  
Mackrell's..... \$1 doz pairs \$1.00, dis 10%  
Van Sand's Screw Pattern..... \$10 per gross, net  
Van Sand's Old Pattern, 1/4, 28; 1/8, 8.50 per gross, net  
Merriman's..... new list, \$1.00  
Zimmerman's, 10% in. .... \$1 gross \$33.00  
Zimmerman's, 9 in. .... \$1 gross \$30.00

## BLIND STAPLES.

Barbed, 3/8 in. and larger..... \$1 lb 11c net  
Barbed, 3/8 in. .... \$1 lb 13c net

BLOCKS.

Penfield Block Co., Rope and Iron Strap'd. .... dis 30%  
BOLTS.

Cast Iron Barrel Shutter, &c. .... dis 55&10%  
Cast Iron Chain (Sargent's list)..... dis 60&10%  
Wrought Barrel..... dis 55&10%  
Wrought Square..... dis 55&10%  
Wrt. Shutter, all Iron, Stanley's list..... dis 50&10%  
Wrt. Shutter, Brass Knob, Stanley's list..... dis 50&10%  
Wrought Shutter, Sargent's list..... dis 55&10%  
Wrought Sunl. Flush, Sargent's..... dis 65.10&10%  
Wrought Sunl. Flush, Stanley's..... dis 40&10%  
Wrought B. K. Flush, Stanley's..... dis 50&10%  
Carriage and Tire, Common, new list..... dis 75%  
Carriage and Tire, Philadelphia Pattern..... dis 50%  
Carriage Bolts, Clarke's..... dis 80%  
Norway..... dis 75%  
R. B. & W. Carriage (old list)..... dis 75%  
Tire, American Sew Co's, Phila..... dis 82%  
Tire, " Bay State" ..... dis 70&10% new list  
Eagle Philadelphia Tire Bolt..... dis 82%&10%  
Stove..... dis 70%  
Plow..... dis 60&10%  
Machine..... dis 75%  
Bolt Ends and Lag Screws..... dis 75%  
BORAX.

## BORAX.

15c. lb net.

## BRACKETS.

Q. S. Hackus..... dis 50%  
Barber's..... dis 40&5%  
Spofford's Patent..... dis 50%  
Ives' Patent Braces..... dis 50%  
Common Ball (American)..... dis 50%  
Amidon's.....

BORING MACHINES—WITHOUT AUGERS.

Sweet & Clark upright, 3.60 angular..... 4.40 net

Lawrence " 3.00 " 3.50 net

Hubbard " 3.00 " 3.20 net

Phillips, with Augers..... 7.00 7.50..... net

BRACKETS.

Shelf, plain..... dis 50&10%  
Shelf, fancy..... dis 55&10%  
BRIGHT WIRE GOODS.

## BRIGHT WIRE GOODS.

New list..... dis 70&10&10%  
BULL RINGS.

Union Nut Co. .... dis 55%  
Sargent's..... dis 60&10%  
Humason, Beckley & Co's. .... dis 60&10%  
BUTTS.

Wrought Brass..... dis 75%  
Cast Brass, Fast Joint..... dis 60&10%  
Cast Brass, Loose Joint..... dis 60&10%  
Fast Joint, Narrow..... dis 60&10%  
Fast Joint, Broad..... dis 60&10%  
Loose Joint, Broad..... dis 70&10%  
Loose Joint, Japanned, with Acorns..... dis 70&10%  
Parliament Butts..... dis 70&10%  
Mayer's Hinges..... dis 70&10%  
Loose Pin, no Acorns..... dis 70&10%  
Loose Pin, Acorns, Japanned..... dis 70&10%  
Loose Pin, Acorns, Jap'd, Plated..... dis 70&10%  
TIPS.

Wrought Iron.

Fast Joint, Narrow..... dis 60&10%  
Fast Joint, Lt. Narrow..... dis 60&10%  
Fast Joint, Broad..... dis 60&10%  
Loose Joint, Broad..... dis 60&10%  
Table Butts, Back Flaps, &c. .... dis 60&10%  
Inside Blind, Regular..... dis 60&10%  
Inside Blind, Light..... dis 60&10%  
Loose Pin, Wrt..... dis 60&10%  
Loose Pin, Light..... dis 60&10%  
Spring Hinges—  
Geer's Spring and Blank Butts..... dis 25%  
American Spring Hinge Co's. .... dis 25%  
Gem Spring Hinges..... dis 25%  
Blind Butts, Shepard's, Nos. 50 and 60..... dis 70%  
Blind Butts, Shepard's, No. 050..... dis 70%  
Blind Butts, Shepard's No. 75..... dis 70&10%  
Blind Butts, Lull & Porter..... dis 75%  
Blind Butts, Huffer..... dis 50%  
Blind Butts, Clark's, Nos. 1, 3, 5..... dis 70&10%  
Standard Lull & Porter..... dis 75&10%  
STANDARL LULL & PORTER.

BOW PINS.

Humason, Beckley & Co's. .... dis 55&10%  
Sargent & Co's. .... \$19.75 and 21.40; dis 66&10%  
Hotchkiss..... dis 25%  
BUTCHER'S CLEAVERS.

Humason & Beckley Mig. Co. .... dis 25%  
Bradley's..... dis 25%  
Beatty's..... dis 25&5%  
1 2 3 4 5 6 7 8  
\$16.50 19.00 21.50 24.00 27.00 30.00 33.50 36.50  
CAN OPENERS.

American..... \$1 gross \$7.50, dis 10%  
New Idea..... \$15.00 gross  
No. 4, French..... \$10 doz \$2.25, dis 55%  
No. 5, Iron Handle..... \$1 gross \$7.50, dis 10%  
Sprague, No. 1, 2; No. 2, 2.25; No. 3, 2.50; dis 50&10%  
Universal..... \$10 doz \$3.00, dis 33%  
CAPS, PERCUSSION.

U. M. C., F. C. trimmed..... 50c  
U. M. C., F. L. ground..... 70c dis 10&10%  
U. M. C., Cent fire ground..... 70c  
U. M. C. Double W. Proof..... \$1.40 dis 10&5%  
G. D. & S. B. .... 33c. dis 10%  
E. B. 1-10, Eley's..... 60c  
Musket, in 1-10's..... 55c  
Hicks Ground Edge in Brass Boxes..... 55c  
CARTRIDGES.

Rim..... dis 60%  
Central Fire, pistol size..... dis 40%  
" " " Military..... dis 25%  
B. H. Caps, Round Balls..... 1.60  
" " " Swaged Conical..... 1.75  
NEW LIST ON CARTRIDGES.

Rim-fire, 22 short..... \$5 5 long..... \$6.00

" 32 " 10 " 15.50

" 38 " 18 " 18.00

" 41 " 15 " 17.50

Central Fire—32, \$11.00; 38, \$13.50; 41, 15.00; 44, \$19.00

CARDS.

Horse and Curry, new list, July, 1881..... dis 10%  
Cotton, new list, July, 1881..... dis 10%  
Wool, new list, July, 1881..... dis 10%  
CARPET STRETCHERS.

Cast Steel, Polished..... \$10 doz \$5.00, dis 30%  
Cast Iron, Steel Points..... \$10 doz \$3.00, dis 50%  
Bullard's..... dis 25%  
CASTERS.

Bed..... dis 60%  
Plate and Shallow Socket..... dis 60%  
Deep Socket..... dis 25&10%  
Martin's Patent (Phoenix)..... dis 25%  
CATTLE LEADERS.

Humason, Beckley & Co's. .... dis 60&10%  
Sargent's..... dis 60&10%  
P. S. & W. .... dis 25&10%  
CHAIN.

German Halter and coil Chain..... dis 50&10%  
Trace, Breast and Fancy..... dis 45&10%  
Oneida Halter Chain (old list)..... dis 45&10%  
Galvanized Pump Chain..... \$1 lb 8c net  
Jack Chain, Iron..... dis 60&10%  
Jack Chain, Brass..... dis 50&10%  
CHALK.

White..... \$1 gross 60c net  
Red..... \$1 gross 85c net  
Blue..... \$1 gross 91c net  
White Crayons..... \$1 gross 9c net

COTTON LINES.

Cotton Fish Lines..... dis 33%  
Cotton Chalk Lines, 20 feet:

Nos. 11, 13, 15, 17, 20, dis 33%  
3.20, 3.60, 4.00, 4.50, 5.25, dis 33%  
CHISELS.

Socket Framing, Crossman..... dis 65&10%  
Socket Framing, P. S. & W..... dis 70&10%  
Socket Framing, Douglass'..... dis 75%  
Socket Firmers, Crossman..... dis 65&10%  
Socket Firmers, Ohio Tool Co. .... dis 60&10%  
Socket Firmers, Douglass'..... dis 70&10%  
Socket Corner..... dis 70&10%  
Tanged Firmers..... dis 40&45%  
Tanged Firmers, Butchers..... \$5.00@5.25 to 7.50  
L. Merrill's Socket and Framing Chisel..... dis 65&10%  
CLAMPS.

Iron, Screw, Eagle..... dis 50%  
Iron, Adjustable, Stearns'..... dis 60&10%  
Iron, Cabinet, Sargent's..... dis 65&10%  
Iron, Carriage maker's, Carr & Crawley..... dis 25%  
CLIPS, AXLE.

Norway or Best..... dis 60&5%  
Superior..... dis 45&5%  
Conestopo..... dis 60&10%  
Coal Hods—Griffiths'..... dis 40%

COCKS, BRASS.

Racking, new list, July 10, 1880..... dis 60&10%  
Globe, new list, July 10, 1880..... dis 60&10%  
Plain Bibbs, new list, July 10, 1880..... dis 60&10%  
Ale and Beer, new list, July 10, 1880..... dis 60&10%  
COFFEE MILLS.

Parker's..... dis 45%  
Wilson's..... dis 40&10%  
Logan & Strobridge..... dis 45%  
Enterprise Mfg. Co. .... dis 25%

COMPASSES, DIVIDERS, &c.

Compasses..... dis 60&10%  
Calipers..... dis 60&10%  
Dividers..... dis 60&10%  
Cook's Pencil..... dis 10%

COOKERS.

Family, Howe's "Eureka"..... dis 25%  
Family, L. F. & C.'s "Handy"..... dis 30%

GRINDSTONE FIXTURES.

Sargent's Patent..... dis 70&10%  
Reading Hardware Co. .... dis 25&10%

GUN WADS.

Eley's B. E. wads, 11 upwards..... \$1.75

" " " 9 and 10..... 2.00

" " " 7 " 8..... 2.25

" P. E. " 11 upwards..... 2.20

" " " 9 and 10..... 3.65

" " " 7 " 8..... 4.45

HAMMERS.

Nail and Spike..... dis 40%  
" Eureka" Gimlets..... dis 25%  
" Diamond" Gimlets..... dis 50%  
Double Cut, Shepardson's..... dis 50%  
Double Cut, Hartwell's..... dis 50%  
Double Cut, Ives'..... dis 50%  
Double Cut, Douglass'..... dis 33%  
" Reel" ..... \$1 gross \$12.00, dis 25%

GLUE POTS.

Tinned and Enamelled..... dis 40%  
Family, Howe's "Eureka"..... dis 25%  
Family, L. F. & C.'s "Handy"..... dis 30%

GRINDSTONE FIXTURES.

Sargent's Patent..... dis 70&10%  
Reading Hardware Co. .... dis 25&10%

GUN WADS.

Eley's B. E. wads, 11 upwards..... \$1.75

" " " 9 and 10..... 2.00

" " " 7 " 8..... 2.25

" P. E. " 11 upwards..... 2.20

" " " 9 and 10..... 3.65

" " " 7 " 8..... 4.45

HAMMERS.

Maypole's..... dis 15%

Hartford Hammer Co. .... dis 25%

COOKERS.

Family, Howe's "Eureka"..... dis 25%  
Family, L. F. & C.'s "Handy"..... dis 30%

GRINDSTONE FIXTURES.

Sargent's Patent..... dis 70&10%  
Reading Hardware Co. .... dis 25&10%

GUN WADS.

Eley's B. E. wads, 11 upwards..... \$1.75

" " " 9 and 10..... 2.00

" " " 7 " 8..... 2.25

" P. E. " 11 upwards..... 2.20

" " " 9 and 10..... 3.65

" " " 7 " 8..... 4.45

HAMMERS.

Maypole's..... dis 15%

Hartford Hammer Co. .... dis 25%

## COOPERS TOOLS.

Bradley's..... dis 15&

LAWN MOWERS.	
Acme Buckeye, Easy and Excelsior, new list, dis 40 \$	
Linen Fish.....	dis 25 & 10 %
Wire Clothes, Galvanized, 100 feet.....	per doz \$3.00
LOCKS AND LATCHES.	
Cabinet, Eagle.....	Changes made in list price
Cabinet, Gaylord.....	
Cabinet, Bridgeport.....	1881, dis 25 & 2 %
Cabinet, P. & F. Corbin	dis 40 %
Trunk, new list, Jan 1, 1881.....	dis 15 & 2 %
Yale Lock Co., Flat Key.....	dis 40 %
Plate.....	dis 33 & 2 %
DOOR LOCKS, ETC.	
Bradford.....	
Norwalk.....	
Norwich.....	List prices as revised
P. & F. Corbin.....	Dec. 10th, 66 & 2 %
Russell & Erwin.....	for cash.
Mallory, Wheeler & Co.....	
Padlocks—Russell & Erwin.....	
Mallory, Wheeler & Co.....	dis 66 %
Norwich Lock Manf. Co.....	and 5 % for cash.
Wm. Wilcox & Co.....	
Wm. Wilcox & Co's Plate Locks.....	dis 33 & 2 %
Yale Lock Manf. Co's "Standard".....	dis 40 %
Romer's.....	dis 25 & 40 %
Conestoga.....	dis 80 & 10 %
Scandinavian, "Norwich".....	dis 50 & 10 %
MALLETS.	
Penfield Block Co., Apple, Hickory and Lignumvitae.....	dis 30 %
MEAT CUTTERS.	
Dixon's (P. S. & W.) Nos. 1 2 3 4.....	
" Nos. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15.....	dis 35 \$
Perry's, Nos. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16.....	5 gr'd
Woodruff's (P. S. & W.) Nos. 100 150.....	dis 15
Hales.....	Nos. 11 12 13
" Nos. 12 13 14 15.....	dis 35
Kieser's No. 55.....	dis 40 \$
Kieser's Gem.....	dis 25 \$
Kieser's No. 8a.....	dis 40 \$
Kieser's Monarch.....	dis 45 \$
Beef Shaver, (Enterprise Manf. Co.).....	dis 25 %
MOLASSES GATES.	
Stebbins Patterns.....	dis 70 & 10 %
Stebbins Genuine.....	dis 67 & 10 %
Stebbins Tinned Ends.....	dis 40 & 10 %
Chase's Hard Metal.....	dis 50 & 10 %
Self-Measuring, (Enterprise).....	dis 20 %
Lincoln's Pattern.....	dis 60 & 10 %
Weed's.....	dis 15 %
Boss Nos. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15.....	dis 10 %
Boss, Jappanned Finish.....	dis 60 & 10 & 10 %
" Bronze Finish.....	dis 50 & 10 & 10 %
NUTS AND WASHERS.	
Square Nuts.....	8 c off list.
Hexagon Nuts.....	8 1/2 c off list.
Washers.....	7 1/2 c off list.
SHEARS.	
Zinc and Tin.....	dis 60 & 10 %
Brass and Copper.....	dis 50 %
Malleable (Hammer).....	dis 20 %
PLATING MACHINES.	
Astor Plating Machine.....	each \$15, dis 20 %
Crown Plating Machines.....	each \$15
6 in. 10 in. 18 each.	
PLANES AND PLANE IRONS.	
Bench, First Quality.....	dis 20 %
Bench, Second Quality.....	dis 25 %
Molding.....	dis 15 %
Bailey's (Stanley R. & L. Co.) New list, Jan. 1879.....	dis 20 & 10 %
The Stanley (S. R. & L. Co.) new list, Jan. 1879.....	dis 20 & 10 %
Bailey's.....	dis 20 & 10 %
Plane Irons, Butcher's.....	dis 50 to 100
Plane Irons, Auburn Tool Co.....	dis 20 %
Plane Iron, Ohio Tool Co.....	dis 20 %
Plane Irons, Sandusky Tool Co.....	dis 20 %
PLIERS AND NIPPERS.	
Button's Patent.....	dis 33 1/2 %
Hall's Pat. Compound Lever Cutting Nippers.....	
No. 2, 5 in. \$13.50; No. 4, 7 in. \$21 per doz, dis 25 %	
Gas Pliers.....	dis 50 %
PLUMBS AND LEVELS.	
Disston's.....	dis 40 %
Stanley R. & L. Co.'s Pat. Adjustable.....	dis 65 & 10 %
Stanley R. & L. Co.'s Non-Adjustable.....	dis 65 & 10 %
Chapin's Patent Adjustable.....	dis 65 & 10 %
Chapin's Non-adjustable.....	dis 65 & 10 %
Standard Rule Co.'s New Adjustable.....	dis 65 & 10 %
Standard Rule Co.'s Non-Adjustable.....	dis 65 & 10 %
Pocket Levels.....	dis 65 & 10 %
RAIL.	
Sliding Door, Wrought Brass.....	per lb. 43c, dis 30 %
Sliding Door, Bronzed Writ. Iron.....	per lb. 12c, dis 35 %
Sliding Door, Iron, Painted.....	per lb. 4c, dis 10 & 10 %
Barn Door.....	inch..... 5c 5c 5c
Per 100 feet.....	\$.00 3.60 5.00 dis 10 %
B. D. for N. E. Hangers.....	Small. Med. Large. Per 100 feet.....
RIVETS.	\$.00 10 2.70 .30 net.
Iron and Tinned, new list, Dec. 10, 1881.....	dis 50 %
In bulk, new list, Dec. 10, 1881.....	dis 40 %
Upper Rivets and Burrs.....	dis 50 to 100
Nos. 7 8 9 10 11 12 13 14 15	
" 40c. 50c. 52c. 54c. 56c. 58c. 60c. 70c.	
RIVET SETS.	dis 40 %
RODS.	
Stair, Brass.....	dis 25 %
Stair, Black Walnut.....	each. per doz.—net
RULES.	
Boxwood. IVORY.	
Chapin's.....	dis 80 %
Standard.....	dis 40 & 10 %
Stanley.....	dis 70 & 10 %
Stevens & Co. ....	IVORY..... dis 50 & 10 %
Stevens & Co. Miscellaneous.....	dis 50 & 10 %
SAD IRONS.	
Self-Heating, Charcoal.....	per doz 9.00 net
Mrs. Pott's Irons.....	dis 35 %
Enterprise Star Irons, new list, July 20, 1882.....	dis 35 %
Comb'd Fluter and Sad Iron.....	per doz \$15.00, dis 15 %
Common Sad Irons.....	2 1/2c per lb.
SAND PAPER.	
Baeder & Adamson's Flint, 100@1/2 \$4.50 per r.m.	
Baeder & Adamson's Flint, 2, 2 1/2 & 3. 5.00 per r.m.	
Baeder & Adamson's Flint, Assord'd 4.75 per r.m.	
Baeder & Adamson's Star.....	2.75 per r.m.
Baeder & Adamson's Emery 1/2" r.m. \$0.50@11.50	
J. Bartle's Sand, Flint and Emery Paper.....	dis 30 & 5 %
SASH CORD.	
Common.....	per lb. 14c. net
Patent.....	per lb. 17c. @18c. net
Silver Braided Lake Hemp.....	per lb. 50c. dis 10 %
Silver Braided Lake White Cotton, per lb. 50c. dis 10 %	
Silver Braided Lake Drab Cotton, per lb. 55c. dis 10 %	
Silver Lake Cable Laid, Bengal Unbleached Hemp, 17 cts.	dis 10 %
Russian Hemp, 10 cts.	dis 10 %
Italian Hemp, 34 cts.	dis 10 %
Samson Braided, white cotton.....	dis 50 & 10 %
" " " drab cotton.....	dis 55 %
SASH WRIGHTS.	
Solid Eyes, in 500-lb. lots and over, per lb. 1 1/2c. net	
SAUSAGE STUFFERS OR FILLERS.	
Miles.....	per doz \$20, dis 25 & 5 %
Perry.....	per doz. No. 15; No. 0, \$21...dis 35 %

ENTERPRISE MFG. CO.	
Monarch.....	dis 40 %
SAWS.	
Boynton's Lightning Cross Cuts, new list.....	dis 40 %
Boynton's Circular and Mill.....	dis 40 %
Boynton's Ice.....	dis 25 %
Boynton's Lightning Hand, Panel and Rip.....	dis 25 %
Disston's Circular.....	dis 40 %
Disston's Mill.....	dis 40 %
Disston's Cross Cut.....	dis 40 %
Disston's Hand, Panel, Rip, &c.....	dis 20 %
Hubbard, Bakewell & Co. Circular Saws.....	dis 40 & 5 %
Hubbard, Bakewell & Co. Cross Cut.....	30c. ft.
Hubbard, Bakewell & Co. One-Man's, X Cut.....	dis 40 & 5 %
Hubbard, Bakewell & Co. Mill Saws.....	dis 40 & 5 %
Peace Circular and Mill.....	dis 40 %
Peace Hand, Panel and Rip.....	dis 25 %
Peace Cross Cuts.....	dis 35 %
Peace Band Saws, all widths.....	dis 10 %
Webster Cross Cut, with handles.....	dis 25 & 10 & 10 %
Grimm's Hack Saws and Blades.....	dis 30 %
SAW FRAMES.	
White.....	per doz \$1.05, dis 10 %
Saw Rods.....	per list, dis 10 & 10 %
SAW SETS.	
Stillman's Genuine, per doz \$2.50 and \$5.00.....	dis 10 %
Stillman's Imitation.....	per doz \$2.25, dis 10 & 10 %
Common Lever.....	per doz \$2.00, dis 10 & 10 %
Leach's.....	No. 0, \$2.00; No. 1, \$1.75; No. 2, \$1.50; No. 3, \$1.25
Hammer, Hotchkiss.....	dis 50, dis 10 %
Aiken's Genuine.....	dis 1.50, dis 50 & 10 %
Aiken's Imitation.....	dis 70, dis 50 %
Morrill's.....	No. 1, \$1.50; No. 5, \$2.25; dis 35 & 10 %
SCALERS.	
Hatch, Counter, No. 171.....	per doz \$42, dis 37 1/2 & 10 %
Hatch, Tea, No. 161.....	per doz \$15.00, dis 10 & 10 %
Union Platform, Keystone.....	dis 45
Chicago Scale Co.....	Special dis
Fairbanks.....	dis 20 & 10 %
Forsyth Scale Co.....	dis 45 %
Howe's.....	dis 20 & 10 %
Chatillon's Grocers'.....	dis 40 %
Chatillon's Eureka'.....	dis 25 %
Family Universal'.....	dis 50 %
Family Turnbull's.....	dis 30 %
Scale Beams, List of Jan. 12, 1882.....	dis 50 %
SCRAPERS.	
Adjust. Box Scraper (S. R. & L. Co.) \$6.50, dis 20 & 10 %	
Box, 1 Handle.....	per doz \$4, dis 10 %
Box, 2 Handle.....	per doz \$6, dis 10 %
Foot.....	dis 45 & 10 %
Ship, common.....	per doz \$3, net
Wilson Mfg. Co.....	dis 10 %
SCREW DRIVERS.	
Douglas Mfg. Co.....	dis 20 & 10 %
Dixson's.....	dis 40 %
Cowles Mfg. Co.....	dis 50 & 10 %
Stanley Rule & Level Co.'s, Var. Hds.....	dis 50 & 10 %
Stanley Rule & Level Co.'s Black Hds.....	dis 40 & 10 %
Ratchet.....	dis 30 & 10 %
Clark's Patent.....	dis 25 %
Shepardson.....	dis 25 %
SCREWDRIVERS.	
Flat Head Iron, A. S. Co.'s list, Jan. 1, '85.....	dis 80 %
Round Head Iron.....	dis 75 & 10 %
Round Head Brass.....	dis 25 & 10 %
Round Head Brass.....	dis 75 %
Flat Head Blued, add 2 1/2 % to net of invoice.....	
Brass and Silver Capped.....	dis 40 %
Japanned, list of Plain Screws.....	dis 72 1/2 %
Coach, Patent Gimlet Point.....	dis 75 %
Coach, Common or Lag.....	dis 60 & 10 & 10 %
Bed.....	dis 10 %
Machine, Flat Head, Iron.....	dis 55 %
Machine, Round Head, Iron.....	dis 50 %
Bench, Iron.....	dis 50 & 10 %
Bench, Wood, Beach.....	dis 30, 40 & 10 %
Bench, Wood, Hickory.....	dis 20 & 10 %
Hand, Wood.....	dis 20 & 10 %
Hand Rail	

## Business Chances.

For the purpose of making the MANUFACTURERS' RECORD a still more valuable medium of communication between its readers North and South, we will publish, FREE OF CHARGE, short advertisements, not exceeding 40 words, from those in the South who have mills, factories, manufacturing sites or water-power for sale, capital wanted for industrial enterprises, &c., &c.; while readers in other sections who desire to engage in manufactures at the South are also invited to use these columns, without cost, either in seeking information regarding the advantages and special claims of different localities, or for asking about good openings for men and money. This department is also free for Southern manufacturers who wish to advertise for mill managers superintendents, engineers, &c.

In corresponding with any of these advertisers please mention the Baltimore Manufacturers' Record.

WANTED—By a lad, an opportunity in the South to learn the machinist's trade. Address Trade, care MANUFACTURERS' RECORD.

A GOOD OPPORTUNITY for a practical Foundryman is offered by the Farmville Manufacturing Co.—to take an interest or rent and conduct the business, either jointly or separately. Brick buildings; foundry floor space 24x60 feet; 4,000-lb. cupola; Sturtevant fan; steam power; machine shop, second floor, with lathes, drill press, small planer, full complement of small tools; wood-working shop 20x40 feet, two stories; store-rooms and large yard space. A good trade in plows, castings, agricultural machinery and machinery repairs, or any specialty, may be built up. Capital from \$5,000 to \$10,000 may be profitably employed. Correspondence solicited. Farmville Manufacturing Co., Farmville, Va.

WANTED—A Partner to put in one-half of \$1,000 and go into the manufacture of common and front pressed brick in any growing Southern town. Address W. G. M., care MANUFACTURERS' RECORD.

WANTED—A party with \$3,000 to \$5,000 capital and a knowledge of manufacturing agricultural implements; business already established; one of the best locations; a good chance for a safe and profitable investment; the machines are covered by five patents, and well tested by 3 years actual use, and an increasing demand. Investigation solicited. For particulars, address A. C. Hendricks, Shenandoah Junction, W. Va.

SITUATION WANTED.—A young man having some education and experience in mechanical engineering, desires location South. Resigned position North to recover health impaired by severe Northern winters. Prefers subordinate position, as assistant to foreman or superintendent, with prospect of advancing. Address Engineer, care MANUFACTURERS' RECORD.

LOCATION WANTED.—An enterprising practical man, with a small capital, desires to establish a newspaper in a growing town in Tennessee, Georgia or North Carolina. Address A. M. McKinley, Tell City, Indiana.

WANTED.—By young man, situation as assistant draughtsman with machine shop, mechanical engineer, mechanical draughtsman, or patent solicitor. Graduate of scientific school. Machine shop and engineering experience. Address A. W. Chase, No. 76 Washington street, Providence, R. I.

NEWSPAPER FOR SALE.—A weekly newspaper with complete outfit, as good as new, in one of the most prosperous towns in the South. For particulars, address Newspaper, care MANUFACTURERS' RECORD.

A MANUFACTORY, with established business, desires to increase the capital stock. Money wanted to extend the business. This is a good chance and will bear investigation. Would like a competent man for office or works. For particulars address Lock Box 102, Chattanooga, Tenn.

WANTED—A party with \$1,200 or \$1,500 to take an interest in and become resident manager of a lumber business in North Carolina. Company incorporated. Salary paid to the right party. Address E. K., Leechville, N. C.

WANTED—Another member for a company that intends starting a lucrative business in Washington county, Tennessee. For particulars address Jno. Wightman, Williamsport, Pa.

WANTED—By a machinist with an established business, a partner with \$3,000 to \$5,000 capital, to start a machine shop and to handle machinery. One of the best locations in the United States. Amp; business already promised; room for almost unlimited development. Location, a vigorous and progressive Southern town; perfectly healthful. Investigations solicited. Address Machinist, care MANUFACTURERS' RECORD.

TALC.—A gentleman who has a fine deposit of talc on his farm in South Carolina, near railroad, would like to sell mineral rights in the land cheap. Gold is found in small quantities, and grindstones in abundance. Address Box 160, Greenville, S. C.

TURNER WITH LATHE WANTED.—Will furnish Hickory, Dogwood, Persimmon and Walnut waste, suitable for handles, etc., with power, house, and garden plat for part of product. Address M. F. J., care MANUFACTURERS' RECORD.

WANTED—A partner in a steam saw mill; well timbered with best yellow pine. This mill is located on the Memphis & Charleston Railroad, one hundred and nine miles from Memphis, Tenn. Address G. N. Harvey, Burnsville, Miss.

WANTED—A situation as superintendent or fore man in a hub, spoke or axe handle factory. Have had 12 years experience. Good references. P. O. Box 213, Columbus, Miss.

FOR SALE.—A very fine water power and an iron bloomery; convenient to W. & A. R. R., 45 miles north of Atlanta, Ga. Also have on hand 12,000 bushels of charcoal; all necessary machinery for making wrought scrap, pig iron and ore blooms; machinery all in running order; never failing water power; good healthy mountainous country; very best freestone water; fine mill site. Will sell all very cheap for cash. Address W. W. Wheeler, Stegall's Station, Ga.

INVENTION.—An article when manufactured will meet with success in the South. Want money to put it through. Address for plans, etc., Box E. E., Kissimme City, Fla.

TO MACHINERY MANUFACTURERS.—A valuable invention on railway water-supply can be had by addressing W. W. E., Kissimme City, Fla.

WANTED—A manager for a canning factory to be started in the South. A good opportunity for a first-class man. Address O. S. care MANUFACTURERS' RECORD.

WANTED.—Situation by an experienced undertaker. Best of reference as to ability and character. Address "Undertaker," care Warfield & Rohan, 62 Sharp street, Baltimore, Md.

WANTED.—Situation by a first-class wood-turner. Address E. Knapp, care Windsor Hotel, Baltimore, Md.

\$1,500 WILL BUY A WEEKLY NEWSPAPER; 7 column folio; complete outfit and a good job office; only paper in place; well patronized and paying; reason, other business. Address E. D. Steele, High Point, N. C.

WANTED—By an energetic, live young man a partner with \$10,000 to \$20,000, to engage in the tobacco business in Piedmont, North Carolina. Best of reference given, showing him qualified to handle business. Address Tobacco, care MANUFACTURERS' RECORD.

WOULD sell or exchange 500 acres in "The Land of the Sky" with pure and chalky ate waters; water power; 75 acres cleared; healthy locality. W. S. Neely, Highlands, N. C.

## NOTICE.

## State of North Carolina.

I own in my own right, and in connection with others, about 27,000 Acres of Land, which I will sell at \$1.75 per acre.

It is in Autauga, Wilkes and Caldwell Counties, North Carolina, in three solid bodies, on Elk, Laurel and Ducktress Creeks, emptying in the Yadkin River. It is well set in good timber. The finest belt of White Pine, White Oak, Hickory, Ash, Maple, Poplar, Hemlock. A fair share of Walnut and various other kinds.

The timber is cheap at what I ask for the whole property. It is thickly spread with mineral indications—Gold, Silver and Iron.

The Watauga portion is rocky and the mineral is in appearance the same as the "Cumberland Magnetic Iron Rock." The railroad now making will increase the value. Apply to JOHN R. HODGES, Middle Cave, North Carolina.

Reference—E. M. Davis, Philadelphia, Pa.

## FOR SALE.

A Portable 20 Horse-Power Engine and Saw Mill, with large lot of timber, if desired, within 6 miles of Farmville, and 3 from railroad. Also one 8 Horse-Power Portable Engine, on skids, Horizontal Boiler, Talbot's make. It is now mounted on truck and used for threshing wheat. Address

FARMVILLE MANUFACTURING CO., Farmville, Virginia.

## Cotton Batting Machinery FOR SALE.

8 30-inch Roller Batting Cards, with Lapper, Press and Grinder. All complete and in good order. Address

COLLINS ARNOLD,

Machinery Agent, 415 River Street, TROY, N. Y.

## FOR SALE.

A saw and planing mill, saal, door, blind and handle machinery, with ample power, all complete and as good as new. About 800,000 feet of dry cypress, poplar and other lumber on yard; logs plentiful and cheap; located in a pleasant and healthy town of over 5,000 population, on river and railroad. Arrangements can be made for long time payment for a good portion of purchase money. A bargain. Address A. M. Lewis, Columbus, Miss.

## FOR SALE.

A Cotton Seed Oil Mill situated in the heart of the cotton region of Texas. The machinery is comparatively new and is in first-class condition. Railroad side track runs to the doors. Any one desiring to invest in this class of property should address

Jas. H. Simpson Bank, Columbus, Texas.

Established 1849. Incorporated 1884.

The Thomas Bradford Co., Successors to

THOMAS BRADFORD & CO., Manufacturers of the Largest Portable Under-Runner Mills, for corn, wheat

and middlings. First premium at Cincinnati Industrial Exposition, 1884. Send for Catalogue. Address Thomas Bradford Co., 144, 166 & 178 W. Second St., Cincinnati, O.

The oldest paper of the kind published in the South. It furnishes the latest news and correct lumber quotations of all the principal markets. The list of freight rates is a feature never before attempted by any other journal. Sample copies sent free and advertising rates furnished on application. Terms, \$2.00 per year!

## THE ADVANCE AND GUIDE.

The Organ of the Real Estate Dealers' Association of Alabama.

The Best Advertiser. Real Estate Agents' Directory and all Complete.

It is the advertisers' medium, the investors' safeguard, the capitalist's favorite, the home-seeker's guide, the farmer's friend, the laborer's password, and the best paper in the South for the money. Tells all about Alabama and the great South. Published weekly at \$1.00 per annum; sample copies 5 cents. Always filled with the choicest news of the State. Send us one dollar, and keep posted on Real Estate, Manufacturing, Mining, &c. Circulation 3,000. Address, with stamp, W. H. DAVIDSON, Secretary and Treasurer Alabama Real Estate Dealers' Association.

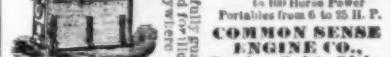
## COMMON SENSE ENGINES.



From 2 to 10 H.P. power. Boiler wrought iron.



Best CORN MILL in the World for plantation and farm purposes.



From 6 to 22 H.P. power. Portable from 6 to 10 H.P.



CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.

CORN SENSE ENGINE CO., Springfield, Ohio.

Simple, durable, economical, perfect, quiet, and quiet.

suited. Boilers all wrought iron. Send for Catalogue.

Agents wanted everywhere.

From 2 to 10 H.P. power. Portable from 6 to 10 H.P.



OPEN.



CLOSED.

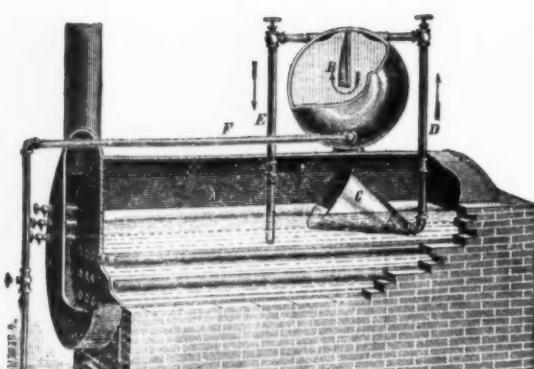
## WRITING MACHINE DROP CABINET.

This Desk combines two things in one: When closed it is an ordinary Flat-Top Desk covering and protecting the Machine, and when open is a complete Writing Machine Desk. Send for Circular.

Address **W. H. TRAVIS, Manufacturer, 1003 Chestnut St., Philadelphia,**

OR ANY WRITING MACHINE AGENT.

**FIRE**

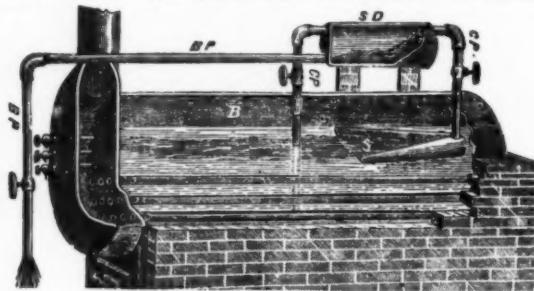


### "HOW TO KEEP BOILERS CLEAN."

If you will send me your name I will send you an 88 page book, free of charge, giving useful information to Steam Users and Engineers. 65,000 already sent out and more to follow. The title of book is "HOW TO KEEP BOILERS CLEAN."

Compare this cut with one on left, and see if identical; the only difference being in shape of Skimmer and Drum.

S. D. Settling Drum. C. P. Circulating Pipe. B. P. Blow-off Pipe. S. Skimmer.



**WATER**

FOR SALE IN THE SOUTH BY  
F. BROTHERHOOD & Co., Charleston.  
A. W. KEY & Co., Birmingham.  
JOHN ROURKE, Savannah.  
TALBOT & SONS, Richmond.  
J. & D. NOBLE, Anniston.  
LEACH & SPANDOUR, Norfolk.

JAS. I. HOTCHKISS,  
86 John Street,  
NEW YORK.

**SCALE**

### TO STEAM USERS.

I will Remove and Prevent Scale in any Steam Boiler, or make no charge. My Remedy will also Neutralize the most destructive waters, and prevent GROOVING, PITTING, AND WASTING OF IRON. Which causes so many Boiler Explosions. A book on "Care and Management of Steam Boilers." Address **GEO. W. LORD, 316 Union Street, PHILADELPHIA, PA.**

**STEAM PUMPS**  
SEND FOR PRICES.  
VALLEY MACHINE CO. EASTHAMPTON, MASS.

**Phosphate Mining Notes.**

BEAUFORT, S. C., August 10, 1885.  
*Editor Manufacturers' Record:*

The Hume Bros. & Co., (limited), of Beaufort, S. C., are extending their storage capacity by the addition of a warehouse 80 x 125 feet, which will be completed in about a month.

It is rumored that the Sea Island Chemical Co. contemplates the erection of additional machinery, as they have just launched a new dredge, and are placing the machinery on board.

Hammond, Hull & Co. have made extensive alterations in their factory.

Some New York capitalists and W. Bischoff, of Charleston, are prospecting in this section with an idea of locating dry sheds, &c., for shipping rock.

The dredge of the "Phosphate Company," (limited), has been doing good work, although I am unable to say what quantity has been produced. She seems to meet the full expectations of the builders.

**A Booming Town.**

CAPE CHARLES, VA., Aug. 7, 1885.  
*Editor Manufacturers' Record:*

The New York, Philadelphia & Norfolk Railroad Company have made rapid advancement in the construction of their buildings, shops and general works, including the newly-made harbor that will accommodate a large amount of shipping or space for a hundred or more vessels, besides the vast anchorage just outside of dock entrance. They will not construct packing or canning houses, but the same is being done by Wm. L. Scott on his property, south side of harbor, and designed expressly for this purpose, together with lumber and wood yards. Several packing houses already engaged or contracted for, and as many as are demanded, will be put up at short notice. The place for energetic and live men to come.

F. W. McDANIEL.

MR. GEO. R. CATHER, formerly of Baltimore, now the editor of the *Aegis*, Ashville, Ala., who is well known to our readers through his recent letters in the MANUFACTURERS' RECORD, now has in press and shortly to be issued by Messrs. T. B. Peterson & Bro., of Philadelphia, a novel that promises to attract more than usual attention in literary circles. Critics who have read the advance sheets are very hearty in praise of this new work; one of them writes: "It is a very exciting, absorbing, American novel, especially noteworthy for its thrilling interest throughout. It is also in the highest degree original and peculiar, while marked power characterizes every page. The plot is framed with unusual deftness and is developed with a vivid dramatic effect unsurpassed in modern fiction."

**List of Patents.**

The following Patents were granted to citizens of the Southern States, bearing date Aug. 4, 1885. Reported expressly for this paper by Louis Bagger & Co., Mechanical Experts and Solicitors of Patents, Washington, D. C.

Aitcheson, Peter & R. P., Alexandria, Va.  
Box for bottled liquids.....323,486  
Ayer, Alfred, Lake Weir, Fla. Device for handling boxes.....323,844  
Cochran, R. F., Chiversville, Ga. Cotton-chopper.....323,497  
Cowden, W. F., Cumberland, Md. Canal convoy.....323,639  
Daniell, J. S., Conyers, Ga. Cotton-planter.....323,642  
Dooly, M. H., Atlanta, Ga., and J. D. O'Callahan, Chattanooga, Tenn. Car-axle box.....323,645  
Eisner, Joseph, Baltimore, Md. Pantaloons, drawers, or overalls.....323,569  
Estelle, Henry, Chattanooga, Tenn. Boiler-cleaner.....323,571  
Evans, G. W., Baltimore, Md. Milk or cream can.....323,864  
Evans, G. F., Corpus Christi, Texas. Fastening for blind-slats.....323,863  
Fennerty, J. M., Memphis, Tenn. Car-window.....323,408  
Gathright, J. B., Louisville, Ky. Automatic Car-brake.....323,659

Gibson, W. B., Smithville, Ga. Seed-planter.....323,473  
Howe, C. P., Austin, Texas. Gate.....323,684  
Hunt, R. R., Lexington, Ky. Car-coupling.....323,812  
Hutches, B. F., Jr., Galveston, Texas. Needle-fastening.....323,870  
Kavanaugh, F., Harrisburg, Texas. Metallic compound.....323,426  
Lesser, L. A., Baltimore, Md. Trunk.....323,434  
Main, Harrison, Eureka Springs, Ark. Movement cure apparatus.....323,701  
Martin, J. T., Roanoke, Texas. Cotton-picker.....323,708  
Meyer, John, Covington, Ky. Beer-cooler.....323,712  
Morton, J. W., Orange C. H., Va. Nut-lock.....323,715  
Palmer, W. W., Montague, Texas. Cloth-rack.....323,522  
Randall, L. L., Hawkinsville, Ga. Water-wheel.....323,734  
Schmackers, Anton, Birmingham, Ala. Sash-fastener.....323,741  
Seead, C. S. & U., Louisville, Ky. Locking device for jails.....323,748  
Stitzel, Frederick, Louisville, Ky. Compressor for ice-machines.....323,749  
Stitzel, Frederick, Louisville, Ky. Stuffing-box.....323,750  
Swindell, Edw., Apalachicola, Fla. Construction of ships, 2 patents.....323,831  
Walker, C. I. & F. J. Jersey, Charleston, S. C. Press for plastic material for building-blocks.....323,757  
Ward, Thomas, Harper's, N. C. Plow.....323,836  
Willy, W. P., Patterson, Ga. Guide-rail clamp.....323,895

THE Jolife Awning Co. has been organized in Baltimore, with W. H. Jolife, president, E. Shriver Reese, treasurer, and J. C. Vincent, secretary, to manufacture patented window awnings. The Jolife awning possesses many very superior advantages over the window awnings now in use, as an examination will readily show. It can, however, be manufactured more cheaply than the old awnings, notwithstanding its many advantages over them. The office of the company is southeast corner Calvert and Fayette streets.

THE Rand Drill Co., of New York, have lately received the following very complimentary letter:

OFFICE OF THE LAKE SUPERIOR IRON CO.,

ISHPEMING, L. S., MICH., July 17, 1885.  
RAND DRILL CO., 23 Park Place, N. Y.:

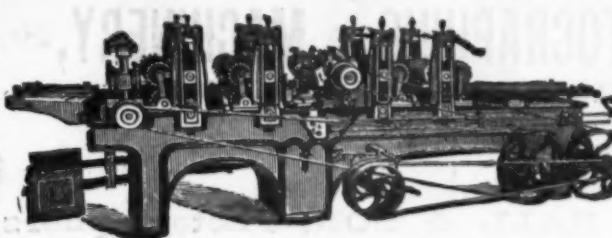
Gentlemen—We have just had occasion to renew a portion of the foundation placed under the 16x30-inch "Rand Compressor" purchased of your company in the winter of 1878-9. While this work was being done, I instructed our chief engineer to overhaul the machinery and make all needed repairs. To our surprise, the steam engine, in all its parts, was found to be in perfect order, and beyond setting out the piston-head rings, no further excuse for spending money could be found. The brass air cylinder showed but slight wear; as this cylinder had never been counter-bored at the ends, we thought best to do it while we had the engine down. Beyond this, and a slight change in the introduction of water to the cylinder heads, not a dollar's worth of work has been expended on the machine during its six and a half years of constant use. Thinking that these facts may be some interest to you, I take pleasure in sending them.

C. H. HALL, Agent.

The Rand Drill Co. have also received official notice from the New Orleans Exposition that they have been awarded medal of first class—gold—for best reciprocating rock drill; also medal of first class—gold—for best duplex air compressor.

**Important.**

Passengers arriving in the city of New York via Grand Central Depot, save \$3 carriage hire and transfer of baggage, by stopping at the Grand Union Hotel, opposite said depot. Passengers arriving by West Shore Rail Road, via Weehawken Ferry, by taking the 42d street horse cars at Ferry entrance, reach Grand Union Hotel in ten minutes for 5 cents, and save \$3 carriage hire. 600 elegant rooms, \$1 and upwards per day. European plan. Elevators, restaurant, cafe, lunch and wine rooms supplied with the best. Prices moderate. Families can live better for less money at the Grand Union than at any other strictly first-class hotel in the city. Guests' baggage delivered to and from Grand Central Depot, free.

**Wood-Working \* Machinery**

FOR  
Railroad Shops,  
Planing Mills,  
Car Builders,  
Cabinet, Carriage,  
Sash, Door  
Blind Makers.

We received eight First-Class GOLD MEDALS at the World's Exposition, at New Orleans, La., on our Machinery, awarded by an Experienced and Practical Committee.

GOLD MEDAL for best Fast-Feed Flooring Machine.

GOLD MEDAL for best Molding Machine.

GOLD MEDAL for best Endless Bed Double Surfacer.

GOLD MEDAL for best Jointing Machine.

GOLD MEDAL for best Circular Saw Machine.

GOLD MEDAL for best Planing Machine for Matching two Boards at a Time.

GOLD MEDAL for best Panel Planer.

GOLD MEDAL for best Shop Surfacer. Illustrated Catalogues on Application.

**S. A. WOODS MACHINE CO.****WAREROOMS:**

91 LIBERTY STREET, 172 HIGH STREET, 61 S. CANAL STREET,  
New York. Boston. Chicago.

**CHANDLER & TAYLOR, Phoenix Machine Works,**

Manufacturers of

INDIANAPOLIS, IND.

**SIDE CUTTING****MULAY SAW MILL.**

Send for Circular and Prices.



Send for Circular and Prices.

This is a valuable general purpose SAW MILL, being well adapted to class-sawing among lumbermen, but is most generally used for neighborhood work. When the power is very light it will still do proportionate work.

**NOVELTY BOILER WORKS.**

MANUFACTURER OF

HIGH AND LOW PRESSURE

**Steam Boilers,**

Tank and Sheet Iron Work.

Estimates furnished for New Work and Repairs.

I make a specialty of SCOTCH BOILERS, the most economical in fuel, requiring very little repairs.

**CAREW'S \* PATENT \* WIRE \* CUTTER.**

These goods have recently been greatly improved. They are now made throughout of  
**FORGED STEEL**

The advantage of this cutter is seen at a glance. The adjustable jaws are its main feature. These are made of the best tool steel, and are brought to a keen cutting edge before being tempered. The cutting quality is unsurpassed. Whenever they become dulled by use, they can easily be removed, by driving from the end showing price-mark, ground, and as easily replaced. This may be repeated as often as expedient; or they can be replaced by duplicate jaws, thus obviating the necessity of purchasing new cutters. **FIVE SIZES 6, 8, 10, 12 and 14 inch.** If your merchant does not keep them, address

**M. W. ROBINSON. Sole Agent, 79 Chambers St., N. Y.**

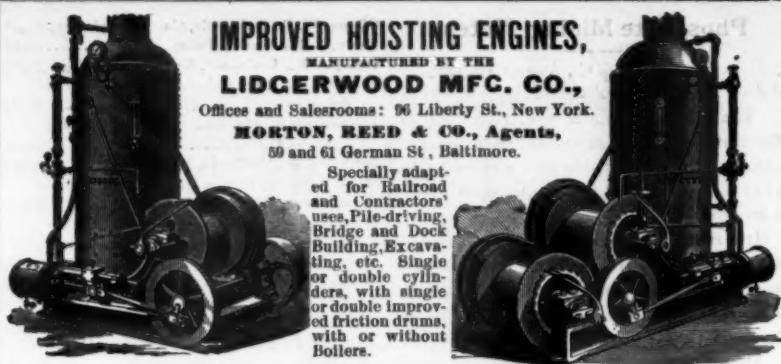
**Attention!**

Architects and Construction Companies.  
WE HAVE SPECIAL FACILITIES FOR

# PHOTOGRAPHING \* MACHINERY, RAILROADS AND BRIDGES.

We also carry in stock Photographs of  
BROOKLYN BRIDGE, NEW YORK ELEVATED R. R. } Showing  
BROOKLYN ELEVATED R. R. } Construction.  
SUBURBAN RAPID TRANSIT CO. } PUBLIC BUILDINGS.  
Estimates and catalogues furnished on application to

**GEO. P. HALL & SON, Photographers,**  
157 Fulton Street, NEW YORK.



ONLY ASPHALT PAINT AND VARNISH WORKS IN THE UNITED STATES.

The **Louisville Asphalt Varnish Co.** Warrants its  
**ASPHALT IRON PAINT**

equal to any "metallic," because made from the best Iron Oxide and Linseed Oil; and superior to them and all rivals, because it alone adds the Varnish Gum "ASPHALTUM," which not only hardens the surface and preserves the elasticity of the paint, but resists the action of all gases, acids and alkalies—the rusting elements. Approved in theory and in practice as THE BEST for all exposed surfaces, on Cotton Seed Oil Mills, Factories, Compresses, Warehouses, Hulks and Decks of Ships, Railroad Depots, Cars, Bridges, Trestles, etc. Colors: Red, Brown and Black. Ready for the brush. No sample cards, but the paint itself, on new tin, sent to any property owner on application. Our

### STACK BLACK

will prolong the life of your iron chimneys, large or small. It bakes on and will not scale off like coal-tar products.

### ASPHALTUM BLACK VARNISHES.

A full line for Manufacturers, the Trade and Family use. Address, (mentioning this paper.)

**LOUISVILLE ASPHALT VARNISH CO.,**  
19 and 20 Courier Journal Building, - - - LOUISVILLE, KY.

## ANNISTON MACHINERY COMPANY,

—MANUFACTURERS' AGENTS FOR—

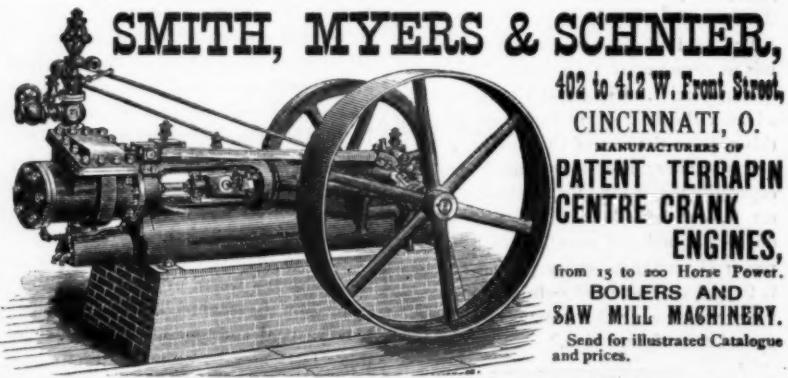
**Engines, Boilers, Machinery and Supplies  
OF ALL KINDS.**

—KORTING'S DOUBLE TUBE INJECTOR,—

P. O. Box 37.

—ANNISTON, ALA.

CORRESPONDENCE SOLICITED FROM MANUFACTURERS WHO DESIRE AN AGENCY.



**T. C. SNYDER & CO.**

MANUFACTURERS OF

## IRON ROOFING, SIDING AND CEILING,

(The H. W. Smith Patent is the Best in use.)

PLAIN,  
Corrugated,  
CRIMPED,  
BEADED.



AND JOBBERS IN  
IRON ORE,  
PAINT,  
CEMENT,  
And Roofers' and  
Builders' Papers.

—PATENT CALAMINED IRON IN QUANTITIES—A New Thing.—

Coating is indestructible, will not scale, is soft, solders more strongly and is superior to Galvanized Iron or Tin for all purposes. Protected both in body and surface. Circulars, Price-List and Sample mailed at request.

—CANTON, OHIO.—

## METALLIC SHINGLES. IRON ROOFING AND SIDING

Crimped and Corrugated

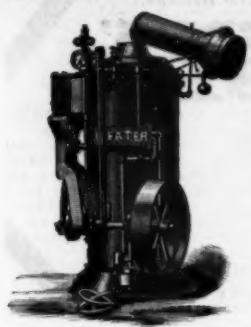
**W. G. HYNDMAN & Co.**  
52 & 54 East Second Street,  
CINCINNATI, O.

FOR  
DWELLINGS, STORES,  
SAW MILLS, BARNs,  
FACTORIES, SHEDS,  
Etc., Etc., Etc.  
Send for Circulars and Prices.  
Mention this paper.



**PORTABLE FORGES**

Empire Portable Forge Co.  
Cohoes, N. Y.  
Send for Catalogue.



## ARMSTRONG BROS.

MANUFACTURERS AND BUILDERS OF  
**Vertical Engines**

Of from 6 to 10 Horse-Power, and

**STATIONARY ENGINES**Of from 10 up to 100 Horse-Power; also **STEAM BOILERS** of all sizes of either Steel or Iron. Send for Catalogue and Price-List.**ARMSTRONG BROS.**, Springfield, Ohio.**HENLEY'S CHALLENGE ROLLER SKATE.**THE LATEST AND BEST  
And Most Complete Scientific**SKATES** IN THE MARKET.HENLEY'S IMPROVED CHALLENGE  
RINK AND CLUB SKATES

## LIBERAL TERMS TO THE TRADE.

For prices, circulars and further particulars, address:

M. C. HENLEY, Patentee and Manufacturer,  
RICHMOND, IND.

Send four-cent stamp for new forty-page Illustrated Catalogue.

MENTION MANUFACTURERS' RECORD.

**THE RICHMOND GLOBE ROLLER SKATE,**

The Easiest Running, Most Durable, and Most Practical Skate in the Market.



Rink men and jobbers will find the "GLOBE RINK" skate to be superior to all others, because:

It has no springs, rivets or pins to break, get loose or wear out. It will not crush the rubber cushion, as their new connecting plate prevents crushing. The wearing of the bearings being automatic, the truck frame will not become loose or rickety from long usage. The tension is easily regulated by means of the draw-bolt, to suit the requirements of any skater. The truck frame can be instantly detached without removing the draw-bolt. It is light, strong, durable, and skaters pronounce it the best skate made.

We especially call the attention of the skaters of America to our **New Half-Clamp Corrugated Steel Bottom Skates**, in which we pride ourselves in having the **Lightest, Strongest and Handsomest Skate in the World**.

For prices and catalogues address

MITCHELL & VANNEMAN,  
RICHMOND, IND.

## The GRAND AUTOMATIC Brick \* Machine.

Well Tempered Brick are the Most Reliable.

The Grand Automatic makes the best tempered Brick in the world. It is the only Machine that makes better brick in every respect than can be made by hand. Send for catalogue to

JONATHAN CREAGER,  
131 E. Front St., Cincinnati, O.

**THE CUMMER ENGINE CO.**  
CLEVELAND OHIO  
SEND FOR 160 PAGE FULL CATALOGUE.

Awarded highest premiums at Cincinnati and Louisville Expositions of 1883, for "Best Automatic Engine." We will furnish anyone copies of the ORIGINAL ENTRIES of several engine builders who claim they were not competing with us. They all entered in the same class with us, and now by deceptive Circulars (one headed "Fact versus Falsehood,") attempt to mislead. No premiums were offered for Condensing Engines.

W. J. CHAPMAN, of Connellsburg Coke Office, York and William Sts.

**GOVERNORS** { For Water Wheels } Cohoes Iron Foundry & Mch. Co. Send for Catalogue. Cohoes, N. Y.

**HOWELL PATENT WHEEL.**

I hereby call your attention to my new **SUSPENSION WHEEL**. It is the lightest in the market, and will sustain more in proportion to its weight than any other. It is strictly **SUSPENSION**. The weight being sustained by a pull inward from the tire, the tension is the same on each and every spoke, or all alike. The strain is put upon all the spokes alike, and not upon one only at a time, as in other wheels. These wheels are made with either hollow or solid shafts.

**C. W. HOWELL**, Manufacturer, COVINGTON, KY.

**H. J. McKEOWN,**  
**MACHINIST \* AND \* MILLWRIGHT.**

Shafting, Hangers and Pulleys, Engineers' Supplies, Packing, Sheet Gum, Pipe, Fittings, and Brass Goods. Special attention given to fitting out shoe and other factories, and to the repair of Gas Engines. Has now on hand five Wain's Patent Power Combined Splitting and Squaring Shears, which are new, and may be had on reasonable terms. Also dealer in New and Second Hand Machinery of all kinds. Write for Catalogues.

196 E. FRONT STREET, CINCINNATI, OHIO.

**DIETZ, WILL & CO.**

**Wood-Working Machinery.**

BAND SAWS, UNIVERSAL SAW BENCH, SAW MANDRELS, PONY PLANERS, MATCHERS.

Shafting, Pulleys and Hangers, Wood Turning and Pattern Makers' Lathes

186 to 191 PEARL STREET,  
Cincinnati, O.

**The Ohio and Mississippi Railway**

IS THE BEST LINE FROM

**CINCINNATI TO ST. LOUIS OR LOUISVILLE.**

Four Solid Daily Trains to St. Louis. Two Daily Trains to Evansville.

Four Solid Daily Trains to Louisville.

Two Daily Trains, having Through Cars to Cairo and New Orleans.

THE SHORTEST AND QUICKEST ROUTE WEST.

10 Hours Only to St. Louis. 4 Hours Only to Louisville.  
8 Hours Quicker Than Chicago Lines to Omaha.

The Only Line running a Sleeping Car of any description from Cincinnati to St. Louis.

"THE O. & M." ALWAYS makes fast time and sure connections with all Lines in Union Depots, running all trains through solid between Cincinnati and St. Louis, and is therefore the recognized first-class route between those points. For tickets, rates, or any particular information, call at 48 W. 4th st., Grand Hotel, or Grand Central Station, Cincinnati, Ohio.

C. W. PARIS, Passenger Agent. W. W. PEABODY, Pres. and Genl. Manager.  
W. B. SHATTUC, General Passenger Agent.

**MONON ROUTE.**

Louisville, New Albany & Chicago Railway Company.

The Pullman Car Line between CINCINNATI, INDIANAPOLIS, CHICAGO AND THE NORTHWEST.

2 FAST EXPRESS TRAINS LEAVE CINCINNATI  
From Station, cor. 5th and Hoadly Sts. (Central Time.)

7.30 A. M. CHICAGO DAY EXPRESS. (Except Sunday)  
For Indianapolis, Monon, Frankfort, Michigan City, Chicago, Milwaukee, St. Paul, Minneapolis and all points in the Northwest.

6.45 P. M. CHICAGO NIGHT EXPRESS (Daily)  
For Indianapolis, Chicago, Milwaukee, St. Paul, Minneapolis, Omaha, Council Bluffs, Davenport, Rock Island and all points in the Northwest.

PULLMAN SLEEPING CARS AND DAY COACHES THROUGH TO CHICAGO. BAGGAGE CHECKED TO ALL POINTS IN NORTHWEST.

JOHN H. GARRISON, District Pass. Agent, 129 Vine St., Burnet House Block, CINCINNATI.  
JOHN B. CARSON, General Manager, CHICAGO.

W. H. BALDWIN, General Passenger Agent, CHICAGO.

**C. H. & D. R. R.**

From and to CINCINNATI.

TOLEDO, SAGINAW, NIAGARA FALLS, DETROIT, TORONTO, AND ALL POINTS IN MICHIGAN AND CANADA.

CONNSVILLE, RUSHVILLE, BLOOMINGTON, INDIANAPOLIS, PEORIA, AND ALL POINTS WEST OR NORTHWEST.

RICHMOND, LOGANSPORT, DELPHI, CHICAGO, MONON, AND ALL POINTS IN THE NORTHWEST.

FORT WAYNE, KALAMAZOO, PETOSKEY, GRAND RAPIDS, MACKINAW, AND ALL POINTS IN MICHIGAN.

FULLMAN PALACE SLEEPERS AND PARLOR CARS.

For information apply at any Railroad Office in the United States or Canada. In Cincinnati, Ohio, at Offices: N. W. Corner Fifth and Vine Streets, or Depot, Fifth and Hoadly Streets, or address

J. F. McCARTHY, Agents at 5th and Vine Sts.,  
JNO. R. McCORD, Cincinnati, O.

SAM'L STEVENSON,  
General Ticket Agent.

## Steam

Wrought-Iron Pipes, Cast-Iron Pipes, Boiler Tubes, Spiral Riveted Wrought-Iron Pipes, Cast-Iron Fittings, Wrought-Iron Fittings, Malleable Iron Fittings, Bent Coils of Wrought Iron Pipe for Heating, Boiling, &c., Steam Radiators, Brass and Iron Cocks and Valves, Radiator Valves, Openway Valves, Boiler Trimmings, Gauge-Cocks, Steam Gauges, Water Gauges, Steam Whistles, Lubricators, Oil and Tallow Cups, Revolution Counters, Gongs, Steam Boiler Tube Cleaners, Steam Boiling Kettles, Feed-Water Heaters, Pressure Regulators, Damper Regulators, Steam Traps, Glue Heaters, Injectors, Inspirators, Steam Pumps, Syphon Pumps, Engine Governors, &c.

Contractors for Steam-Heating Apparatus of all kinds.

## Water

Wrought-Iron Pipes—Plain and Galvanized, Heavy Cast-Iron Pipes, Fittings of all kinds, Cast-Iron Soil Pipe, Green-House Boilers, Pipes and Fittings, Pumps of every description—Steam- or Hand-Power, Fire Hydrants and Valves, Street Main Valves, Foot Valves, Hose Valves, Pipes, Couplings, &c. Bath Boilers, Brass Water-Cocks and Valves in Detail.

## Gas

Wrought- and Cast-Iron Pipes, Cast, Wrought, and Malleable Iron Fittings, Brass Fittings, Service and Meter Cocks, Gas Burners, Solder Furnaces, Gas Valves, Street Lamp-Posts and Lanterns, Gas-Fitters' Tools and Sundries.

## Tools

Hand and Power Pipe-Cutting and Threading Machines, Pipe Stocks and Dies, Pipe Taps, Drills and Reamers, Machinists' Die-Plates, Machinists' Taps, Solid Bolt Dies, Pipe-Tongs, Adjustable Tongs, Pipe-Wrenches, Monkey-Wrenches, Gas-Fitters' Pliers, Augers, Pipe-Cutters, Pipe-Vises, Chisels, Ratchets, Gas-Fitters' Pumps, Boiler-Tube Brushes and Cleaners, Boiler Tube Expanders, Hydraulic Pumps and Jacks, Patent Hand Hoisting-Machines, Oilers, Hammers, &c.

Correspondence solicited from parties requiring any Goods in the above lines.

MENTION THIS PAPER WHEN YOU ADDRESS US.

## McShane & Bell Foundry

Fine Iron and Brass Castings Made to Order. Manufacture those celebrated Bells for Tower Clocks, Court-Houses, Cotton Mills, Factories, &c. Prices and catalogues sent free. Address H. McSHANE & CO. Baltimore, Md.

## J. W. LOANE,

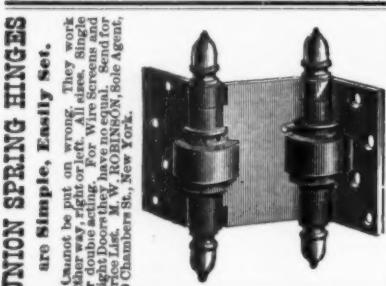
13 N. Gay Street, BALTIMORE.

Manufactures and sells at lowest rates

## TENTS, AWNINGS, FLAGS

Canvas Horse Covers, Plain and Oiled, Yellow and Black.

GIVE HIM A CALL. ORDERS OR ENQUIRIES BY MAIL RECEIVE PROMPT ATTENTION.



BERNHARD DIETZ, manufacturer of Printers' Rollers, and Roller Composition. Factory, cor. Light and Mercer streets, Baltimore. Prices: Composition, (bulk) 30 cents per lb.; for Casting, also, 30 cents per lb. Orders by Mail promptly attended to.



W. J. CLARK & CO.

Manufacturers of

## Hydrants.

These Hydrants are made of the best material, and are guaranteed to be entirely non-wasting and non-freezing. The works of these Hydrants can be taken out and repaired without breaking the ground. Send for circular.

38 N. Holliday Street,  
BALTIMORE, MD.

1837. NOVELTY WORKS. 1838.

## JAMES MURRAY & SON, Machinists and Millwrights

Engines and Boilers, Mills of all kinds, Marine Railways, &c. Improved Clay Tempering Machinery, Steam or Horse Power. Phosphate Machinery, Crushers, Rollers, Mixers, &c., &c.

40, 42 & 44 York Street,  
NEAR LIGHT, BALTIMORE.

Repairing of all kinds promptly done.

Established 1793.

## H. BALDERSTON & SON, MANUFACTURERS OF WIRE GRATING FOR WINDOWS

Doors and Office Railing, Wire Screens for Banks, Churches and Store-Fronts. Woven Wire, Wire Tree-Guards, Sieves, Screens for Coal, Sand, &c.

66 S. Calvert Street, Baltimore.

## WIRE RAILING

and Ornamental Wire Works.

DUFUR & CO. 36 N. Howard St., Baltimore.

Wire Railing for Cemeteries, Lawns, Gardens, Offices and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieves, Fenders, Cages, Sand and Coal Screens, Iron Bedsteads, Chairs, &c.

## FOR SALE.

A nearly new No. 5 H. B. Smith & Co. Planing and Matching Machine; weight 3,300 lbs. Price \$400. Address for further particulars.

LONG & SAVAGE CO.

Charleston, Kanawha Co., W. Va.

W. L. MERSFELDER.

MORGAN L. SMITH.

## CINCINNATI PATTERN WORKS.

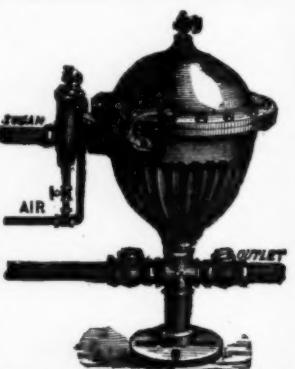
Stove Patterns a Specialty.

Artistic, Architectural and Machine Patterns

Of Every Description Made on Short Notice.

N. W. COR. FRONT & PIKE STS.

Jobbing Promptly Done. CINCINNATI, O.



For returning steam condensed under pressure automatically into the boiler, whether taken from above or below the boiler level, without loss or waste.

MANUFACTURED BY

The Curtis Regulator Co.  
158 Beverly St., BOSTON, MASS.

(Awarded First-Class Medal at New Orleans.)

## STEPHEN'S' VISES.

With STEEL FACED or SOLID STEEL SLIDING JAW, and ADJUSTABLE ATTACHMENTS.

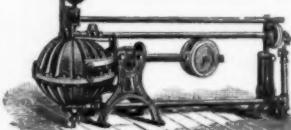
Superior in Make, Grip, Strength and Durability, and more economical in Time and Labor than any other Vise. Jewelers, Machinists in general, and Car and Locomotive Builders in particular, will find them especially adapted to their need. Also STEPHEN'S' PATENT PLANER CHUCKS. Sold by hardware, machinery and tool dealers. Send for descriptive circular and price-list.

MELVIN STEPHENS, Proprietor,  
Office, 41 Dey St., NEW YORK.

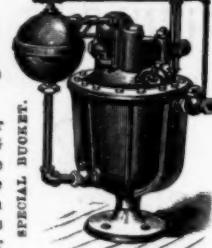
## THE ALBANY STEAM TRAP COMPANY'S SPECIAL BUCKET

## And GRAVITATING Traps.

GRAVITATING.



Automatically drain the water of condensation from HEATING COILS, and returns it to the boiler, whether coils are **above** or **below** the water level in boiler, doing away with pumps and other mechanical devices for such purposes.



Also, "Blessing's Patent Renewable Seat Valves."

ALBANY STEAM TRAP COMPANY, Albany, N. Y.  
Office and Works, 78 and 80 Church Street.

## PATENT STEEL SHAFTING

Of Superior Quality.

## PULLEYS, HANGERS, COUPLINGS, &c.

PATENT SELF-OILING HANGERS,  
PATENT INTERNAL CLAMP COUPLINGS,  
PATENT FRICTION CLUTCHES.

A. & F. BROWN, 43 Park Place, N. Y.

## STUEBNER & WOODS

168 & 170 E. Third St., Hunter's Point  
LONG ISLAND CITY, N. Y.

MANUFACTURERS OF

## COAL DEALERS AND STEVEDORES' SUPPLIES.

STEEL and IRON COAL TUBS,  
Side and Bottom Dumping Cars, Coal and Coke Barrows,  
HOISTING BLOCKS, ETC.

Send for Circulars, &c.

## PATENT CLASP PULLEY

Made in Halves. Same Price as Whole Pulleys.

## Shafting, Hangers.

Castings of Every Description  
Made. Stationary, Distillery, Mill and Boiler  
Work.

JNO. N. MARQUETTE,

No. 6 W. Falls Avenue, Baltimore, Md.



## COLUMBIA BIKE

THE POPULAR STEEDS OF TODAY

## COLUMBIA TRICYCLES

FOR LADIES AND GENTLEMEN

ILLUSTRATED CATALOGUE SENT FREE.

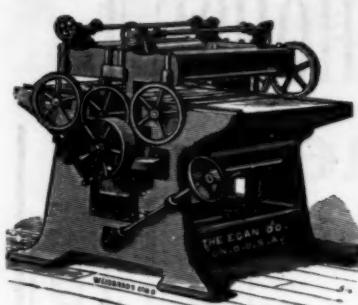
THE POPE-MFG. CO.  
597 WASHINGTON STREET.  
BOSTON.  
12 WARREN ST. NEW YORK.  
15 WABASH AVE. CHICAGO.

## Steam Boilers

JOHN T. COLEMAN & SONS,  
Steam Boiler Works,

Cor. Holliday and Pleasant Sts., Baltimore.

Manufacturers of all kinds of Steam and Bath Boilers, Smoke Stacks, Water Tanks, Lard Kettles, &c. Particular attention given to repairs.



## Wood-Working Machinery

Of the Latest and most Improved Designs for  
Planing Mills, Furniture Factories, Chair  
Factories, Car and Agricultural Works,  
Carriage and Buggy Shops and

### GENERAL WOOD WORKERS,

MANUFACTURED BY

## THE EGAN CO.

(Successors to the Cordesman & Egan Co.)

228 to 240 W. Front St. Cincinnati O., U. S. A.

Thos. P. Egan, Pres. Ed. Ruthven, Sec. F. Danner, Sup.

## ZELL'S SAFETY BOILER.

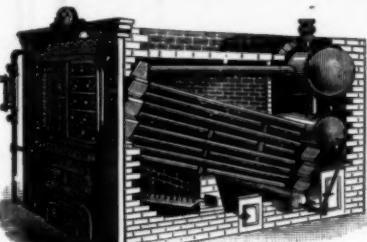
Economy

Unexcelled,

Durability

Guaranteed.

Send for Circulars.



POSITIVELY  
WILL NOT  
EXPLODE.

—MANUFACTURED BY—

## Safety Steam Generator Com'py,

68 Warren Street, New York.

## John G. Mengel & Co.

—LEADING—

## Type-Founders and Electrotypes

Modern Book, Newspaper, and Job Type cast in a superior  
Copper-Mixed Metal, and on the new

### JUSTIFIABLE SYSTEM OF BODIES.

## LARGEST PRINTERS' SUPPLY HOUSE in the SOUTH

Dealers in and Agents for all the leading Cylinder  
and Job Presses, Paper-Cutters, &c., &c.

Agents for the Celebrated German Printing Inks.

SECOND-HAND MACHINERY Bought, Sold, and Exchanged.

Complete Newspaper and Job Offices Furnished at the Lowest  
Prices and on good terms.

Send for Specimen Sheets, Estimates, &c., to

31 German Street, Baltimore.

## The True Idea



## of Assurance.

Women's Mutual Insurance

and ACCIDENT COMPANY.

OFFICERS AND  
ELIZABETH B. PHELPS, Pres.  
MARGARET HOLCOMBE, Vice-Pres.  
EMILY TAYLOR,  
Elizabeth S. Roberts, H. Louise Gates,

MEDICAL EXAMINERS

ALFRED K. HILLS, M. D., 465 Fifth Avenue.  
JOHN A. KAMPING, Attorney and Counsel, 128 Broadway, New York.

INCORPORATED UNDER THE LAWS OF NEW YORK.

### ITS OBJECT.

This company is the pioneer in throwing down the bars of unjust discrimination against women in life insurance. Still more, it is the first to give the right of equality to be in favor of females at every age, and married as well as single. To remove this prejudice, and to secure to women an equal estimation in her insurability, the promoters of this enterprise have devoted themselves. Consistently with this principle **WOMEN AND MEN** are equally insured in this company without discrimination on account of sex.

### ITS MEMBERSHIP

comprises persons between the ages of 16 and 50, of approved physical condition. The Life Class is separate and distinct from the Accident Class, members being liable for losses only occurring in the class to which they belong.

### ITS PLAN

secures insurance at cost, and embraces the best features of similar associations, with such improvements added as enlightened experience has shown to be desirable for the member's advantage and the security of the association.

ITS SAFETY AND SECURITY  
consists in its ECONOMICAL system, its IMPOSSIBILITY of insolvency, and its SECURITY RESERVE FUND.

BANKERS:  
BANK OF THE METROPOLIS, New York City.

DEPOSITORY OF RESERVE FUNDS:  
FARMERS' LOAN AND TRUST CO., New York City.

The officers would be pleased to furnish any further particulars which may be desired in relation to the Company's affairs, or the way to obtain a policy.

Agents are desired in every city, village and district throughout the healthful sections of the country.

Address all communications to the

WOMEN'S MUTUAL INSURANCE AND  
ACCIDENT CO.,  
128 BROADWAY, NEW YORK.

## GRAND HOTEL



BROADWAY and 31st St., NEW YORK.

EUROPEAN PLAN.

HENRY MILFORD SMITH & SON, Proprietors.

## BAY STATE HOUSE,

WORCESTER, MASS.

W. L. SHEPARD, Proprietor.

This House has been thoroughly repaired and renovated, and will be KEPT STRICTLY FIRST CLASS IN EVERY RESPECT.

The Only First-Class Hotel in the City.

Rates, \$3.00 and \$3.50 per day

## Massasoit House,

SPRINGFIELD, MASS.

M. & E. S. CHAPIN, Proprietors,

Near the Union Depot.

THOROUGHLY FIRST-CLASS.

## Colonnade Hotel,

Chestnut St., Cor. 15th,

One block from new Penna. Railroad Depot,

PHILADELPHIA.

H. J. & G. R. CRUMP. E. A. GILLET.

A FAVORITE RESORT  
FOR ALL  
SOUTHERN TRAVEL.



"Nothing is denied to well directed Diligence."

## MYERS SANITARY DEPOT.

Office and Salesroom—92 Beekman Street,  
Factories—126 Beekman and 212 Front Street,  
Warehouses—246 Water Street,

—NEW YORK.—

SPECIALTIES IN PLUMBERS' SUPPLIES.

## JOHN R. EDWARDS, Blank Book Manufacturer,

LITHOGRAPHER, PRINTER AND STATIONER,

167, 169 AND 171 W. LOMBARD ST. COR. SHARP ST.

—BALTIMORE, MD.—

Specialty: Account Books to order for Manufacturing Establishments, Banks and Insurance Companies. Estimates Furnished.

## WORK-SHOPS

Without Steam Power

SHOULD USE

**BARNES'**  
Patent Foot Power Machinery. COMPLETE  
Outfits for actual workshop business.  
With them Builders, Cabinet  
Makers, Metal and Wood Work-  
ers compete with steam power.  
Machines **on trial** if desired.  
Proof of value, prices, full  
detail, illustrate catalogue, free.  
**W. F. & John Barnes Co.**  
Rockford, Ill.  
Address No. 221 Ruby St.

Dealers, send for Discounts.



Barnes' Patent Engine Lathe  
15-inch swing, 6-foot or 8-foot  
Bed. These machines are made a  
specialty in our factory, they have  
advantages not found in other ma-  
chines in this line. It will pay  
any one desiring to purchase or  
know more about this class of ma-  
chines, to send for full description  
and prices.

**W. F. & JOHN BARNES,**  
221 Ruby St., Rockford, Ill.

## STEEL CASTINGS

FROM 1-4 to 15,000 lbs. WEIGHT.

True to pattern, sound, solid, free from blow-holes, and  
of unequalled strength.  
Stronger and more durable than iron forgings in any  
position or for any service whatever.  
40,000 CRANK SHAFTS and 30,000 GEAR WHEELS of  
this steel now running prove this.  
CRANK SHAFTS and GEARING specialties.  
STEEL CASTINGS of every description.

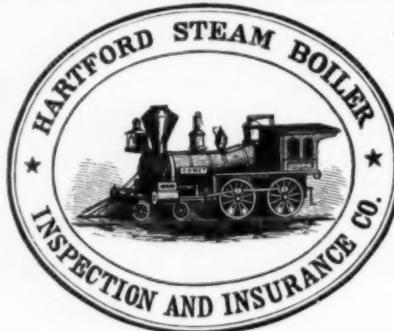
Send for Circulars and Prices to

CHESTER STEEL CASTINGS CO.

Office, 407 Library Street, Philadelphia.

Works, Chester, Pa.

—ISSUES—  
POLICIES OF INSURANCE  
AFTER



A CAREFUL INSPECTION  
OF THE

BOILERS,

Boilers, Buildings & Machinery  
ARISING FROM STEAM BOILER EXPLOSIONS.

The Business of the Company Includes All Kinds of Steam Boilers.

Full information concerning the plan of the Company's operations can be obtained at the  
COMPANY'S OFFICE, Hartford, Conn., or at any agency.

M. ALLEN, Pres. W. B. FRANKLIN, Vice-Pres. J. B. PIERCE, Secy.

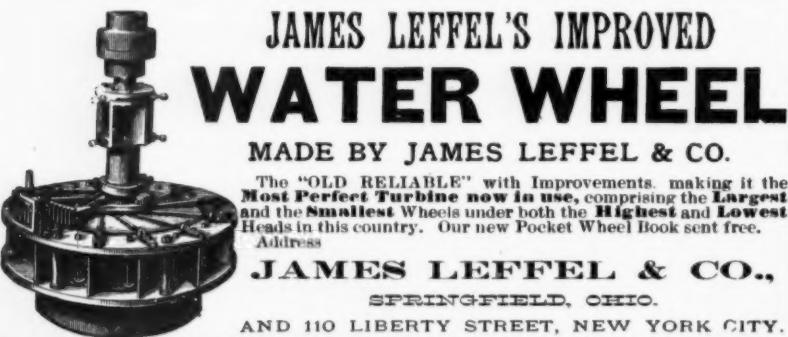
BOARD OF DIRECTORS:

J. M. ALLEN, President.  
AUGUSTUS HENDERSON, President Etna Fire Insurance Co.  
F. W. CHENEY, Vice-Pres. T. C. Chenev. Bros. Silk Mfg. Co.  
CHARLES M. BEACH, Vice-Pres. C. Beach & Co.  
DANIEL BARTHOLOMEW, Pres't Adams Express Co.  
G. M. BARTHOLOMEW, Pres't American National Bank.  
H. W. H. JARVIS, Pres't Colt's Fire Arms Mfg. Co.  
THOMAS O. ENDERS, Secretary Etna Life Insurance Co.  
LEVERETT BRAINARD, of Case, Lockwood & Brainard.

LAWFORD &amp; MCKIM, Agents for Maryland, 10 S. Holliday St., Baltimore, Md.

JAMES LEFFEL'S IMPROVED  
WATER WHEEL

MADE BY JAMES LEFFEL &amp; CO.



The "OLD RELIABLE" with Improvements, making it the  
Most Perfect Turbine now in use, comprising the Largest  
and the Smallest Wheels under both the Highest and Lowest  
Heads in this country. Our new Pocket Wheel Book sent free.  
Address

**JAMES LEFFEL & CO.,**  
SPRINGFIELD, OHIO.

AND 110 LIBERTY STREET, NEW YORK CITY.

## BRASS!

Roll, Sheet and Platers' Brass

GERMAN SILVER.

COPPER, BRASS AND GERMAN SILVER WIRE,

BRASS and COPPER TUBING,

BATTERY and PLATERS' SILVER, &amp;c.

PHILIP R. VOGEL, Jr.

Manufacturers' Agent,

No. 79 German Street, Baltimore, Md.

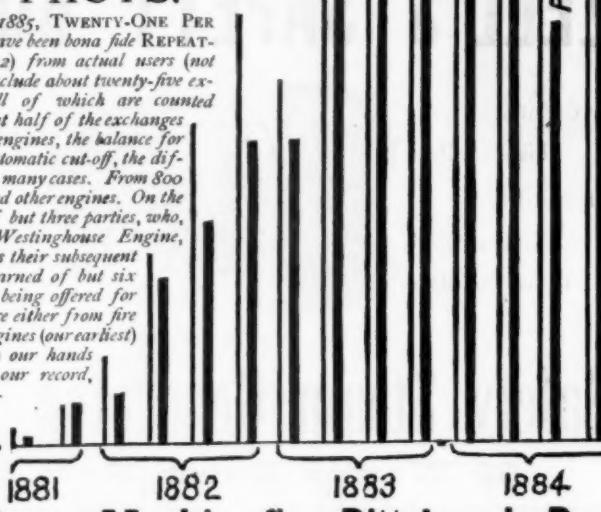
The WESTINGHOUSE  
Engine.Chart showing the quarterly increase  
of our business.

Heavy Lines are Horse Powers.

Light Lines, number of Engines.

## SOME FACTS.

Up to May 1st, 1885, TWENTY-ONE PER  
CENT. of our sales have been bona fide REPEA-  
TED ORDERS (2 to 12) from actual users (not  
agents) and do not include about twenty-five ex-  
changed engines, all of which are counted  
as single sales. About half of the exchanges  
were from defective engines, the balance for  
increased power or automatic cut-off, the dif-  
ference being paid in many cases. From 800  
to 1,000 have displaced other engines. On the  
contrary, we know of but three parties, who,  
having bought one Westinghouse Engine,  
have failed to give us their subsequent  
orders. We have learned of but six  
second-hand engines being offered for  
sale, all of which were either from fire  
or failures. Nine engines (our earliest)  
were thrown back on our hands  
altogether. This is our record,  
with about 1,500 en-  
gines running.

SEND FOR ILLUSTRATED  
CIRCULAR AND  
REFERENCE LIST.

THE Westinghouse Machine Co., Pittsburgh, Pa.

Sales Department Conducted by

Westinghouse, Church, Kerr & Co., 17 Cortlandt St., New York. Fairbanks, Morse & Co., Chicago, Cincinnati, Cleveland, Louisville & St. Paul. Fairbanks & Co., St. Louis, Indianapolis & Denver. Parke & Lacy, San Francisco and Portland, Oregon. Parke, Lacy & Co., Salt Lake City, Utah, and Butte, Montana. D. A. Tompkins & Co., Charlotte, N. C. Keating Implement & Machine Co., Dallas, Texas. Robert Middleton, Mobile, Ala. H. Dudley Coleman, 9 Perdido St., New Orleans, La. Imray & Co., Sidney and Melbourne, Australia. R. Rogers, 43 Rue Lafitte, Paris. F. E. Averill, Delft, Holland.

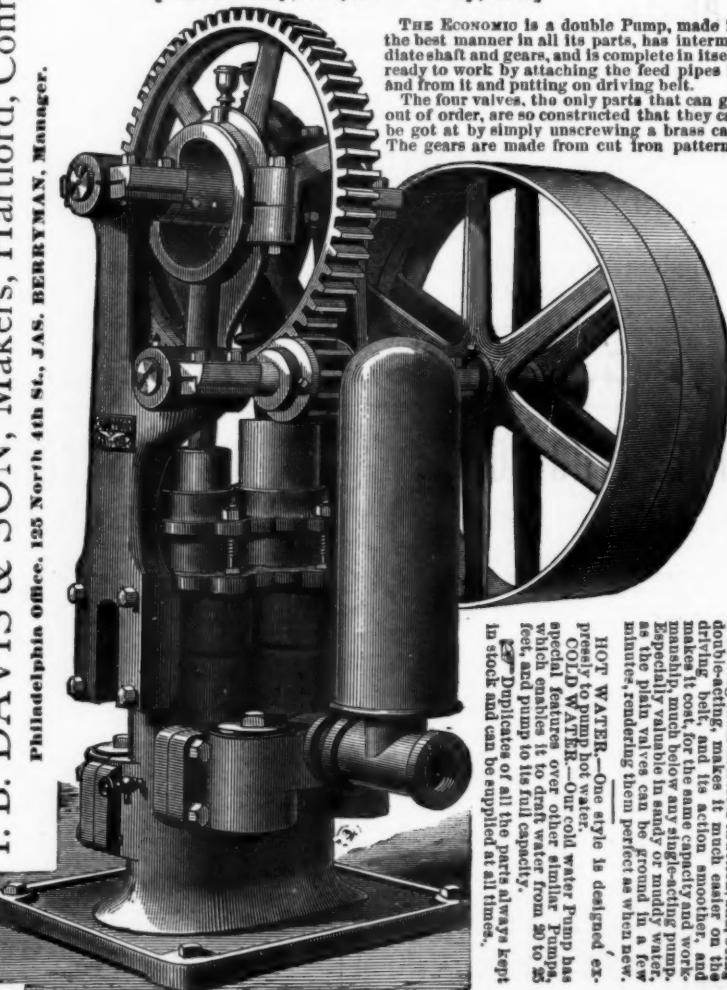
## THE ECONOMIC PATENT

## Boiler Feed Pump

[Patented May, 1879, and February, 1883.]

**THE ECONOMIC** is a double Pump, made in  
the best manner in all its parts, has intermediate  
shaft and gears, and is complete in itself,  
ready to work by attaching the feed pipes to  
and from it and putting on driving belt.

The four valves, the only parts that can get  
out of order, are so constructed that they can  
be got at by simply unscrewing a brass cap.  
The gears are made from cut iron patterns,



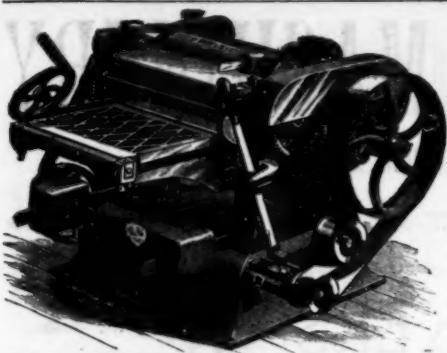
NOTE.—Every one of our Cold Water Pumps is tested on a lift of 23 feet.

I. B. DAVIS & SON, Makers, Hartford, Conn.  
Philadelphia Office, 125 North 4th St., JAS. BERRYMAN, Manager.

rendering them noiseless in action, and, being  
double-acting, makes it much easier on the  
driving belt, and its action smoother, and  
makes it cost, for the same capacity and work,  
much below any single-acting pump.  
Especially valuable in sandy or muddy water,  
as the plain valves can be round in a few  
minutes, rendering them perfect as when new.

**HOT WATER.**—One style is designed ex-  
pressly to pump hot water.  
**COLD WATER.**—Our cold water Pump has  
special features over other similar Pumps,  
which enables it to draw water from 20 to 35  
feet, and pump to its full capacity.

Duplicates of all the parts are always kept  
in stock and can be supplied at all times.



**P. PRYIBIL,**  
467 W. 40th St., New York.  
MANUFACTURER OF  
SUPERIOR  
WOOD-WORKING  
MACHINERY,  
Shafting, Hangers,  
Pulleys, &c.  
Write for 72-page illus-  
trated catalogue.  
Don't bother about  
Stamps.



COVERT'S PATENT HARNESS SNAPS, CHAIN & ROPE GOODS,  
ADJUSTABLE SOLDERING IRONS, &c.

These Goods are sold by all Leading Jobbers in General and Saddlery Hardware, at manufacturers' prices. Send for illustrated catalogue and price list.

**COVERT MFG CO., West Troy, N. Y.**

**Union File Co.**

311 to 315 North St., Baltimore, Md.

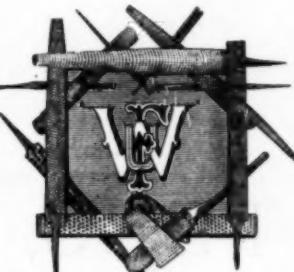
MANUFACTURERS OF

**FILES & RASPS**

Made from the Best Refined Cast Steel.

With the requisite facilities to produce a first-class article, we are enabled to offer Files that will give entire satisfaction.

MORITZ & KEIDEL, Agents, 48 & 50 German Street, Baltimore, Md.

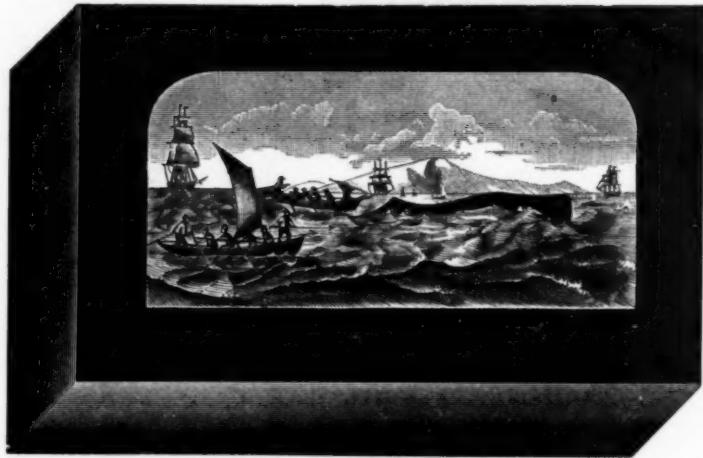


The Oldest Oil House in the City. Business Established 1832 (on Present Premises.)

**WM. C. ROBINSON & SON,**  
81 SOUTH ST., BALTIMORE, MD.

Manufacturers and  
Wholesale Dealers in

**OILS!**

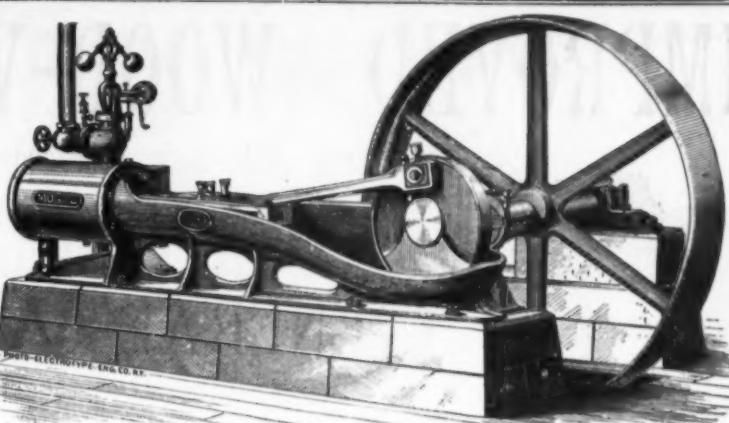


Specialties—Oils for Cotton and Woolen Mills, Railroads, Tanners' and Machinery Use. Our Colophine Cylinder Oil is the best in use, 650° fire test, 28° gravity. Perfect Engine Oil 600° fire test, 20° gravity. Colophine Engine Oil 550° fire test, 23° gravity. Agent for Downer's Spindle, Champion and Mineral Sperm, Meriam & Morgan's Paraffine Co's Paraffine, William's Odorless Lubriphene Oils. Also Manufacturers' Agent for 24°, 28° and 30° Paraffine, and 31° Neutral Bloomless Oils. Correspondence solicited.

**FOR SALE CHEAP!**  
**40 Horse Power VERTICAL BOILER.**

This Boiler was built to order, of very best materials and workmanship; has double-riveted seams; was used but a short time, and is much better than most of the new boilers now made. Cost to build, \$650. For sale at HALF-PRICE, with fixtures, &c. Is a RARE BARGAIN. Ready for immediate delivery. Also, 18-horse HORIZONTAL ENGINE; very strong and heavy.

**JOSEPH B. MATTHEWS,**  
41 Centre Market Space BALTIMORE, MD.



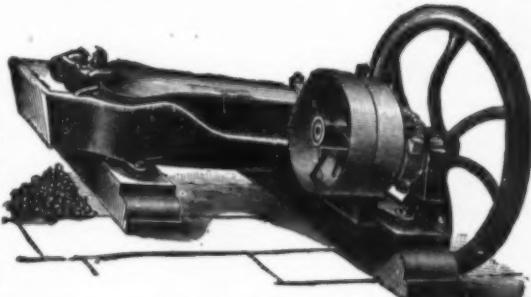
**THE "MOGUL" ENGINE.**

(NEW DESIGN.)

Bearings Extra Large, Compact, Simple, Strong, Durable, and of Superior Workmanship and Materials.  
BUILT BY  
**MERWIN McKAIG,** - - - Cumberland, Md.  
Also Manufacturer of Boilers, Pulleys, Shafting, &c. Send for catalogue.

**ROADS, MINES and FARMS.**

**FORSTER'S  
Rock Breaker.**



Owing to its peculiar SIDE MOVEMENT does not "Shatter" the stones as all other crushers do, but makes ballast and macadam equal to HAND HAMMERED.

Very simple and inexpensive to operate. The only Crusher that can be operated with ordinary Horse Power.

Planters will please notice that ~~the~~ SMALL MACHINES can be operated by HAND. By changing Dies the machine will crush and pulverize Phosphate Rock for Fertilizing, in one operation.

ADDRESS

**TOTTEN & CO., Rolling Mill and Machinery Founders,**  
PITTSBURGH, PA.

**ANTI-FRICTION  
Roller Detachable Chain Belting.**

Especially adapted for the rapid and economical handling of CLAY, TILE, LIME, PLASTER, CEMENTS, BROKEN STONE, COAL, ORES, SAND, DRY and WET TAN, SAW DUST, SLABS, PULP, GRAIN, FLOUR, ICE, &c., &c., &c. For ELEVATORS, CARRIERS, CONVEYERS, &c., &c. Propelling STEAM BOATS and for other DRIVING PURPOSES.

MANUFACTURED AND SOLD BY THE

**Roller Chain Belting Co.**  
COLUMBUS, OHIO.

Send for Illustrated Catalogue.

**S. W. RITTER, Millwright,**

BUILDER OF

Flour and Saw Mills, Drug and Chemical Works, Portable Mills, Smut Machines, Mill Stones, Bolting Cloths, Brushes, Guano Fertilizer Mills, and General Mill Supplies,

261 S. Caroline Street, BALTIMORE, MD.

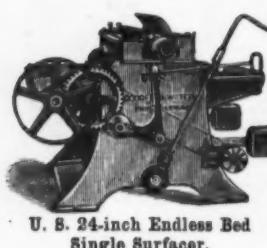
**DO YOU USE STOVE REPAIRS?**

Having a Stock of Repairs for over 12,000 different Stoves, can we not make it to your advantage to trade with us?

PROMPT SHIPMENTS AND SATISFACTION GUARANTEED.

**The W. C. Metzner Stove Repair Co.**  
125 & 127 W. Randolph Street, - - CHICAGO.  
CATALOGUE SENT FREE.

# IMPROVED \* WOOD-WORKING \* MACHINERY



U. S. 24-inch Endless Bed Single Surfacer.

For Planing Mills, Sash, Door and Blind Factories, Chair and Cabinet Makers, Furniture Factories, Carriage, Wagon and Buggy Shops, Car, Agricultural Implement Works, and

## GENERAL WOOD-WORKERS

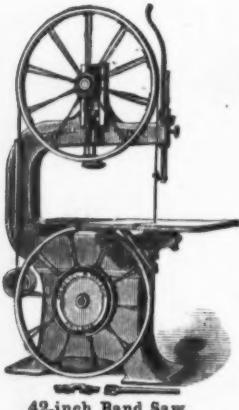


Modern Tenoning Machine.

—WE ARE THE MANUFACTURERS OF THE CELEBRATED—

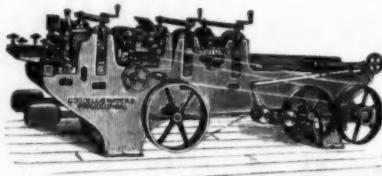
## KEYSTONE FLOORING MACHINE,

Of which over **TWO HUNDRED** have been sold during the past Two Years.



42-inch Band Saw.

Every Machine is thoroughly tested before leaving the Works.

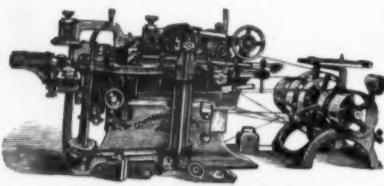


Keystone Flooring Machine, Surfacing 100 linear feet per minute.

All our machines are warranted as represented.



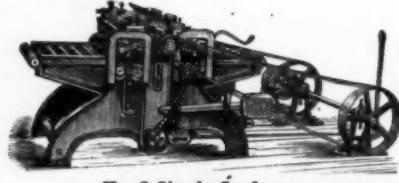
Bracket Band Saw.



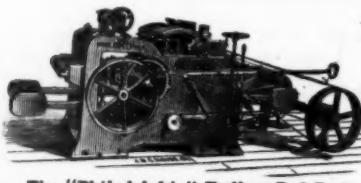
9-inch Four Sided Moulder.



No. 1 Saw Bench.



No. 2 Single Surfacer.



The "Philadelphia" Endless Bed D. S.

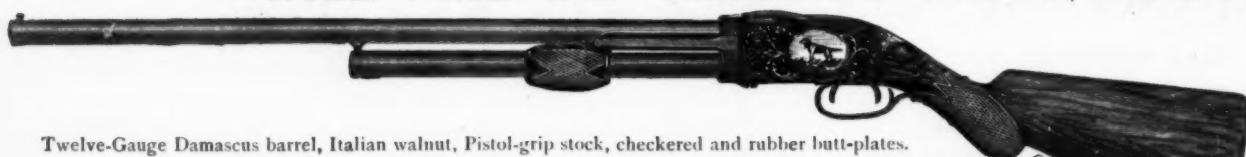
SEND FOR CATALOGUE, AND BE PARTICULAR TO MENTION THIS PAPER.

GOODELL & WATERS, Philadelphia, PENNA.

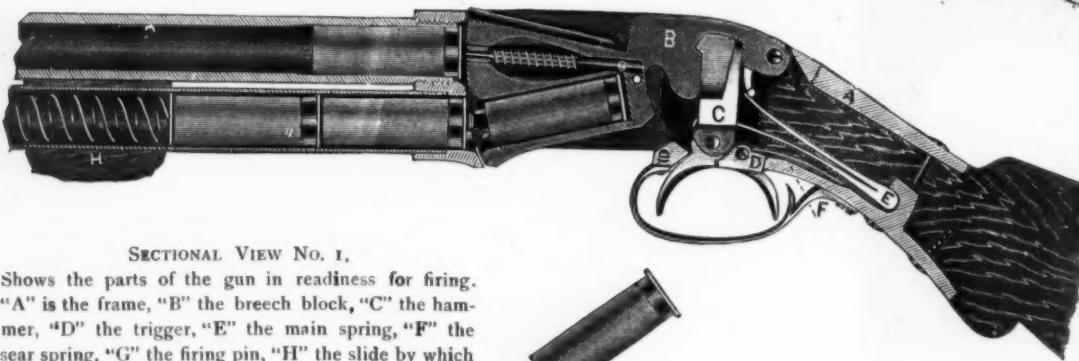
Branch Stores, 11 to 13 S. Canal St., Chicago, Ill., and 115 Liberty St., New York City.

## SPENCER Repeating SHOT-CUN.

WILL FIRE SIX TIMES IN THREE SECONDS.

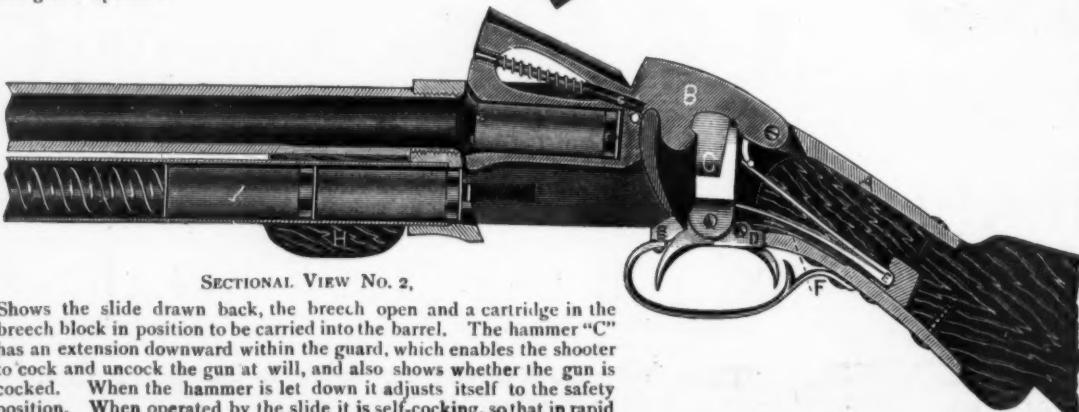


Twelve-Gauge Damascus barrel, Italian walnut, Pistol-grip stock, checkered and rubber butt-plates.



SECTIONAL VIEW NO. 1.

Shows the parts of the gun in readiness for firing. "A" is the frame, "B" the breech block, "C" the hammer, "D" the trigger, "E" the main spring, "F" the sear spring, "G" the firing pin, "H" the slide by which the gun is operated.



SECTIONAL VIEW NO. 2.

Shows the slide drawn back, the breech open and a cartridge in the breech block in position to be carried into the barrel. The hammer "C" has an extension downward within the guard, which enables the shooter to cock and uncock the gun at will, and also shows whether the gun is cocked. When the hammer is let down it adjusts itself to the safety position. When operated by the slide it is self-cocking, so that in rapid firing the gun need not be taken from the shoulder.

**THE SPENCER ARMS CO.,**  
WINDSOR, CONN.

Unequaled for Safety, Workmanship, Force, Accuracy and Rapidity of Firing, Simplicity of Construction, Convenience of Loading, Etc. Has won the Connecticut Individual Championship Badge four times Within five months. SEND FOR ILLUSTRATED CATALOGUE. Medal First-Class over all Competitors, New Orleans Exposition, 1865.

# KNOWLES STEAM PUMP WORKS,

BUILDERS OF

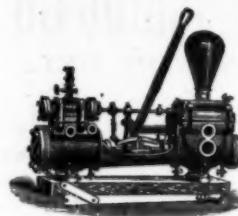
## Single and Duplex Steam and Power Pumping Machinery

44 WASHINGTON ST.  
BOSTON.

93 LIBERTY ST.  
NEW YORK.



PUMP AND CONDENSER.



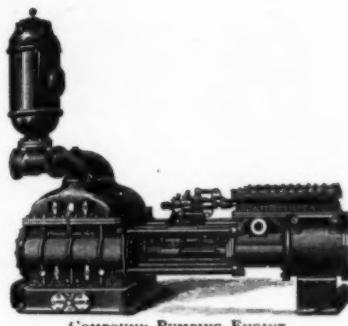
PRESSURE PUMP.



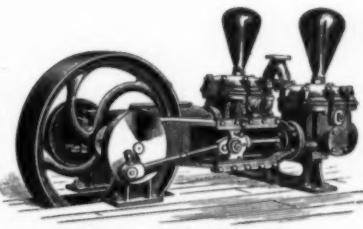
FIRE PUMP.

SEND FOR

ILLUSTRATED  
**CATALOGUE,**  
WITH  
Price-Lists.



COMPOUND PUMPING ENGINE.



DUPLEX BELT PUMP.



BOILER FEED PUMP.



GEARED POWER PUMP.

AIR COMPRESSOR.

ESTIMATES

FURNISHED  
—ON—  
APPLICATION.

CORRESPONDENCE  
SOLICITED.

—ON—  
APPLICATION.

CORRESPONDENCE  
SOLICITED.

## SUBMARINE TUNNEL AND TUBE COMPANY

Will supply estimates for laying double or single Railway Tunnels, Water Mains or Tubes across any bay or channel. Correspondence solicited.

Office, 95 Liberty Street, Room 2,  
NEW YORK, N. Y.



## E. W. BLISS,

MANUFACTURER OF

Cutting, Drawing, Stamping, Embossing, Reducing &amp; Punching

## Presses and Dies

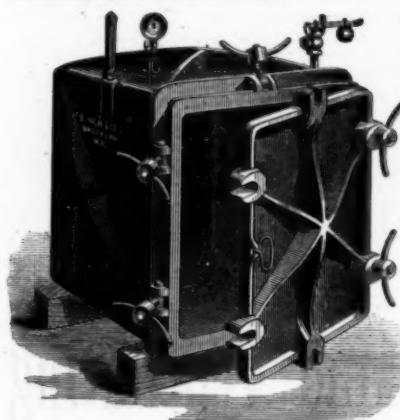
For Working all Shapes and Classes of Sheet Metal.

DOUBLE SEAMING MACHINES FOR ROUND, SQUARE AND OVAL CANS.

Hand and Power Circular Shears. Foot and Power Squaring Shears.

## CANNING MACHINERY,

Steam Chests, Can Fillers, Soldering Machines, Engine Lathes, Shapers and Milling Machines. Special Machinery of Every Description for Manufacturing Sheet-Metal Goods.



—143 Plymouth Street, BROOKLYN, N. Y.—

CUPOLA  
POLISHING  
FRAME.

## Union Stone Com'y

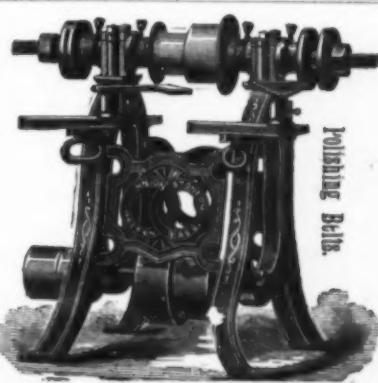
38 and 40 HAWLEY ST., BOSTON, MASS.

PATENTEES AND MANUFACTURERS OF THE

## UNION • EMERY • WHEEL.

Emery Wheel Machinery and Tools a Specialty.

Automatic Knife-Grinding Machines, Wood-Polishing Wheels, Emery, Quartz, Corundum, Grinders and Polishers' Supplies. Catalogue on application.



# Newell Universal Mill Co.

10 BARCLAY ST.

NEW YORK.



## Newell's Cotton Seed Huller & Separator.

IMPROVED 1885, with AUTOMATIC FEEDER.

Capacity from  $\frac{1}{2}$  to 4 tons of Seed per hour.  
Hullers for Oil Mill, Plantation and farm use.  
Mills for grinding Bone, Clay and Cotton Seed.

Send for cuts and prices. Write for testimonials.

# ROBT. WETHERILL & CO.

CHESTER, PA.

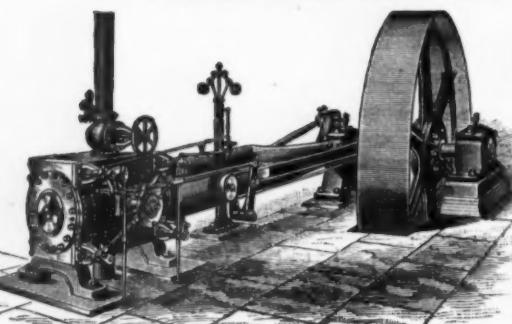
ESTABLISHED 1872.

## Corliss Engine

BUILDERS

Condensing, Non-Condensing,  
Compound.  
Great Economy, Durability,  
Close Regulation.

BOILERS,  
Shafting and Gearing.



CORLISS PUMPING ENGINES

CITY WATER WORKS.

# Chapman Valve Mfg. Co.

MANUFACTURERS OF

STEAM, GAS and WATER

## VALVES and GATES

FIRE HYDRANTS.

WITH OR WITHOUT INDEPENDENT VALVES.

General Office and Works, INDIAN ORCHARD, MASS.

Treasurer's Office,

Mason Building, 72 Kilby and 112 Milk Sts., Boston.

ALL WORK GUARANTEED.

Send for Descriptive Circulars and Price-List. Correspondence Solicited.



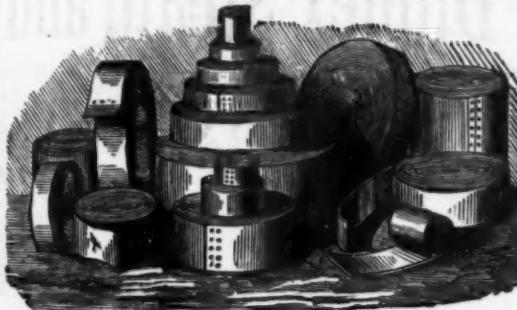
# THOMAS K. CAREY & CO.

25 S. Charles Street, BALTIMORE, MD.

Manufacturers **PURE OAK LEATHER BELTING,**Dealers in **RUBBER BELTING, PACKING, HOSE, &c.,**  
**COTTON, WOOLEN AND SAW MILL SUPPLIES, &c.**

AGENTS

Boston Belting Co's  
Rubber Belting.  
Hoyt's Leather Belt.  
Mt. Vernon Belting.  
Jos. Noones' Sons  
Roller Slasher and  
Clearer Cloth.  
T. K. Earle's Card  
Clothing, &c.

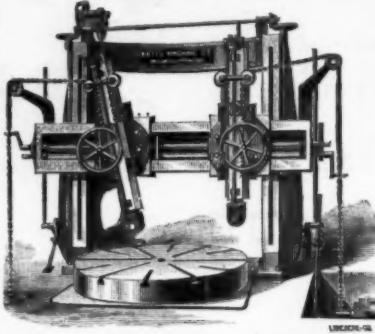


# Betts Machine Co.

WILMINGTON, DEL.

## Improved Machine Tools.

Boring and Turning Mills



OF MODERN DESIGN AND FIRST-CLASS WORKMANSHIP. SIZES UP TO 14-FEET SWING.

# Southwark Foundry & Machine Co.

430 WASHINGTON AVE., PHILADELPHIA, PA.

Porter-Allen and Southwark ENGINES, Blowing  
Engines, Gas Apparatus, Hydraulic Machinery.

ESTABLISHED

1774.

# FLOURING

BUHRS 1774.

This Company owns and operates three Mills, as follows:

Patapsco Mill A, Ellicott City, Md.

Patapsco Mill B, Baltimore, Md.

Patapsco Mill C, Orange Grove, Md.



ROLLS 1882.

Having a daily capacity of 1,500 barrels.  
The value of Flour depends on the proportionate quantity of Gluten, Starch, Sugar and Phosphate  
of Lime Maryland and Virginia Wheat, from which our Patent Roller Flours are manufactured, is un-  
equalled for its purity and superior quality of able properties.

ASK YOUR GROCER FOR

Patapsco Superlative Patent. Patapsco Choice Patent. Patapsco Family. Cape Henry Family.  
Patapsco Extra. North Point Family. Chesapeake Extra. Bedford Family. Orange Grove Extra

# C. A. GAMBRILL MNF'G CO.

Office, 32 Commerce St., Baltimore, Md.

# Buffalo Shaving and Ventilating EXHAUST \* FANS.

SATISFACTION GUARANTEED  
In \* Every \* Instance.

SEND FOR CATALOGUE AND

PRICE-LIST.

# Buffalo Forge Co.

490 \* BROADWAY, \* BUFFALO, \* N. Y. \*